LAUGHLIN BULLHEAD INTERNATIONAL Airport

Appendix C
ENVIRONMENTAL EVALUATION

Appendix C
ENVIRONMENTAL EVALUATION

Analysis of potential environmental impacts of proposed airport development projects is an important component of the Airport Master Plan process. The primary purpose of this chapter is to evaluate the proposed development program for Laughlin/ Bullhead International Airport to determine whether proposed development actions could individually or collectively affect the quality of the environment.

A major component of this evaluation is to coordinate with appropriate federal, state, and local agencies to identify potential environmental concerns that should be considered prior to the design and construction of new facilities at the airport. Agency coordination consisted of a letter requesting comments and/or information regarding the proposed airport development. Issues of concern that were identified as part of this process are presented in the following discussion. The letters received from various agencies are included at the end of this Appendix.

Any major improvements planned for Laughlin/Bullhead International Airport will require compliance with the *National Environmental Policy Act of 1969*, as amended (NEPA). For projects not "categorically exempted" under *FAA Order 5050.4A, Airport Environmental Handbook*, compliance with NEPA is generally satisfied by the preparation of an Environmental Assessment (EA) or, where significant unmitigatable impacts are expected, an Environ-mental Impact Statement (EIS). While this section of the master plan is not designed to satisfy NEPA requirements, it is intended to

supply a preliminary review of environmental considerations that would need to be analyzed in more detail within the NEPA process.

PROPOSED DEVELOPMENT

As a result of the Airport Master Plan analysis, a number of airport improvements have been recommended for implementation over the long range planning horizon. The Airport Layout Plan (Chapter Five) illustrates the development proposed during this period. The following is a list of the major projects planned for completion.

AIRFIELD

- Extend existing Runway 16L/34R and parallel taxiway south 1,500 feet.
- Install instrument approach lighting system (MALSR) on Runway 34R.
- Install an automated weather observing system (AWOS or ASOS).
- Construct general aviation parallel Runway 16R/34L to 4,700 feet in length by 75 feet in width and to 30,000 single wheel loading capability.
- Construct east side parallel taxiway for Runway 16R/34L and associated connecting taxiways.
- Install runway end identification lighting (REILs) and instrument approach lighting system (PAPIs) on Runway 16R/34L.

PASSENGER TERMINAL

- Construct new commercial passenger service terminal building on the east side of Runway 16L/34R (90,000 square feet).
- Expand terminal apron to the west.
- Construct new terminal loop access road.
- Construct new public parking (375 spaces)/rental car parking (225 spaces).
- Reserve frontage area south of existing landside development on the east side of the existing runway for ultimate development options.

GENERAL AVIATION

- Expand east side parking apron for aircraft parking.
- Develop areas for T-hangars, conventional hangars, corporate hangars.
- Construct general aviation access road.
- Establish south access road from Bullhead Parkway.

ACQUISITION

- Acquire necessary land to accommodate proposed development program.

ADDITIONAL POTENTIAL LONG-TERM IMPROVEMENTS

While not currently anticipated within the planning horizon, the Master Plan has noted a potential to extend Runway 16L/34R an additional 1,000 feet (total of 2,500-foot extension) if a future critical aircraft so indicates. Informal agency coordination has been conducted for the initial 1,500-foot extension and is included in this environmental evaluation. NEPA consideration of the 1,500-foot extension as well as the potential 1,000-foot additional extension or any other major runway improvements must be completed prior to construction. Environmental concerns associated with the potential additional 1,000-foot runway extension are expected to be the same as those identified for the 1,500-foot extension.

ENVIRONMENTAL CONSEQUENCES - SPECIFIC IMPACTS

The following text briefly examines the airport development actions and their potential to cause significant environmental impact. The following subsections address each of the specific impact categories outlined in *FAA Order 5050.4A*.

NOISE

Aircraft sound emissions are often the most noticeable environmental effect an airport will produce on the surrounding community. If the sound is sufficiently loud or frequent in occurrence, it may interfere with various activities or otherwise be considered objectionable.

An F.A.R. Part 150, Noise Compatibility Study was prepared for Laughlin/Bullhead International Airport in April 1996. The operation of the airport has not significantly changed since the preparation of this document and, therefore, some of its operational data and assumptions were used in preparing the noise contours included in this Environmental Evaluation.

To determine noise related impacts that the proposed development could have on the environment surrounding Laughlin/Bullhead International Airport, noise exposure patterns were analyzed for the years 1998 and 2020. The 1998 contours represent aircraft noise based on the recorded number of aircraft operations obtained from the Airport Traffic Control Tower and are adjusted to reflect additional operations when the tower is closed. The 2020 contours represent the highest number of forecast aircraft operations of the 20-year planning period.

Noise Contour Development

The basic methodology employed to define aircraft noise levels involves the use of a mathematical model for aircraft noise prediction. The *Yearly Day-Night Average Sound Level (DNL)* is used in this study to assess aircraft noise. DNL is the metric currently accepted by the Federal Aviation Administration (FAA), the Environmental Protection Agency (EPA), and the Department of Housing and Urban Development (HUD) as an appropriate measure of cumulative noise exposure. These three federal agencies have each identified the 65 DNL noise contour as the threshold of incompatibility, meaning levels below 65 DNL are considered compatible with all underlying land uses. Most federally funded airport noise studies use DNL as the primary metric for evaluating noise.

DNL is defined as the average A-weighted sound level as measured in decibels (dB), during a 24-hour period; a 10 dB weighting is applied to noise events occurring at night (10:00 p.m. to 7:00 a.m.). DNL is a summation metric which allows objective analysis and can describe noise exposure comprehensively over a large area.

Since noise decreases at a consistent rate in all directions from a source, points of equal DNL noise levels are routinely indicated by means of a contour line. The various contour lines are then superimposed on a map of the airport and its environs. It is important to recognize that a line drawn on a map does not imply that a particular noise condition exists on one side of the line and not on the other. DNL calculations do not precisely define noise impacts. Nevertheless, DNL contours can be used to: (1) highlight existing or potential incompatibilities between an airport and any surrounding development; (2) assess relative exposure levels; (3) assist in preparation of airport environs land use plans; and (4) provide guidance in the development of land use control devices, such as zoning ordinances, subdivision regulations and building codes.

The noise contours for Laughlin/Bullhead International Airport were developed from the Integrated Noise Model, Version 6.0. The Integrated Noise Model (INM) was developed by the Transportation Systems Center of the U.S. Department of Transportation at Cambridge, Massachusetts, and has been specified by the FAA as acceptable for federally funded noise analysis.

The INM is a computer model which accounts for each aircraft along flight tracks during an average 24-hour period. These flight tracks are coupled with separate tables contained in the data base of the INM which relate to noise, distances and engine thrust for each make and model of aircraft type selected.

A variety of user-supplied data is required to use the INM. This includes the airport elevation, airport area terrain, a mathematical description of ground tracks above which aircraft fly, and the assignment of specific engine types at specific takeoff weights to individual flight tracks. Other input files that are important to running INM are operational data such as; runway use and time of day. The operational data and aircraft fleet mix used are summarized in **Table C-1, Aircraft Operations.**

TABLE C-1
Aircraft Operations
Laughlin/Bullhead International Airport

Type of Operation	Annual Operations	
	1998	**2020**
Itinerant		
General Aviation and Air Taxi		
Single Engine Prop	25,030	47,200
Multi Engine Prop	7,700	15,500
Turbo Prop	2,500	8,600
Citation	360	1,720
Lear 25	210	990
Challenger	150	730
Lear 35	90	430
Gulfstream IV	90	430
Rotor	1,400	4,200
Subtotal	37,530	79,800
Military		
Cobra	200	200
C-12	81	100
Subtotal	281	300
Airline		
B-1900	3,103	3,525
Dash 8	0	2,100
F-27	0	1,875
CRJ	0	1,700
B737-200	180	0
B727-200	325	600
B737-300	0	3,400
A320	0	1,100
F100	0	1,600
B757	0	560
DC-10-30	0	240
Subtotal	3,608	16,700
Local		
General Aviation		
Single Engine Prop	11,767	24,500
Multi Engine Prop	2,200	5,000
Turbo Prop	300	1,500
Subtotal	14,267	31,000
TOTAL	**55,686**	**127,800**

As shown in **Table C-1**, Laughlin/Bullhead International Airport offers commercial service by both turboprop and jet type aircraft. General aviation comprises the majority of the operations at the airport. Military operations at the airport are minimal and constitute less than two percent of the total annual operations. The military activity was assumed to be mainly comprised of helicopter itinerant traffic, as there are no based military aircraft at the airport.

For more detailed information on the aviation forecasts for Laughlin/Bullhead International Airport refer to **Chapter Two, Aviation Demand Forecasts**.

Other basic assumptions used as input to the INM noise model are presented in **Table C-2, Noise Contour Input Data**.

As shown in **Table C-2**, Runway 16R-34L will be used primarily by general aviation aircraft. In addition, the majority of these operations are expected to occur during daytime hours.

Noise Analysis Results

Output data selected for calculation by the INM were annual average noise contours in DNL. *FAA* recognizes the 65 DNL contours as the threshold of significant impact, the 60 DNL noise contour is provided to identify marginal effects from noise. No mitigation is required by the FAA within the 60-65 DNL contour band, in accordance with NEPA guidelines.

In addition, the 60 DNL noise contour is identified in response to Arizona Revised Statute (ARS) §28-8486, and as amended House Bill 2523, pertaining to all public airports in the State. This statute requires "The state real estate department shall have and make available to the public on request a map showing the exterior boundaries of each territory in the vicinity of a public airport." Pursuant to this new legislation the Arizona Department of Real Estate has requested that all public airports provide the department with the following data: (1) A map or chart showing whether property is located in or outside of a territory in the vicinity of a public airport, (2) each public airport shall record the map in the County Recorders office which will be sufficient to notify owners and potential purchasers of property that the property is located in or outside of a territory in the vicinity of a public airport, and (3a) an aircraft noise contour map or chart, if available, showing nearby property in counties with a population of more than five hundred thousand persons, a day-night average sound level of 60 decibels or higher, (3b) and in counties with a population of five hundred thousand persons or less, a day-night average sound level of 65 decibels or higher.

TABLE C-2
Noise Contour Input Data
Laughlin/Bullhead International Airport

Departure Runway Use Percentages

Type of Operation	Runway 16L		Runway 34R		Runway 16R		Runway 34L	
	No Action	Action	No Action	Action	No Action	Action	No Action	Action
Commercial								
Air Carrier	61%	61%	39%	39%	N/A	N/A	N/A	N/A
Commuter	68%	68%	32%	32%				
Business Jet	68%	68%	32%	32%	N/A	N/A	N/A	N/A
General Aviation	68%	34%	32%	16%	N/A	34%	N/A	16%
Military[1]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Arrival Runway Use Percentages

Type of Operation	Runway 16L		Runway 34R		Runway 16R		Runway 34L	
	No Action	Action	No Action	Action	No Action	Action	No Action	Action
Commercial								
Air Carrier	50%	50%	50%	50%	N/A	N/A	N/A	N/A
Commuter	51%	51%	49%	49%				
Business Jet	50%	50%	50%	50%	N/A	N/A	N/A	N/A
General Aviation	68%	34%	32%	16%	N/A	34%	N/A	16%
Military[1]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percent Day/Night Split

Type of Operation	Existing		Future	
	Day	Night	Day	Night
Commercial	100%	0%	100%	0%
General Aviation	95%	5%	95%	5%
Military	100%	0%	100%	0%

Note: [1] Military operations are preformed by helicopters and a helipad is used for takeoffs and landings.

- EXISTING NOISE CONDITION

Exhibit C-1 illustrates the 1998 nosie exposure at Laughlin/Bullhead International Airport. The 75 and 70 DNL noise contours remain entirely on airport property. The majority of the 65 DNL noise contour remains on airport property with the exception of a small portion extending off airport property on the north end of Runway 16. This area is an undeveloped area and is considered a compatible land use. The 60 DNL which is shown to identify areas of marginal impact, extends off airport property to the south by approximately 2,500 feet over undeveloped land areas and extends approximately 3,000 feet off airport property to the north over the Lake Mead National Recreation Area. The contour extends into a small portion of the recreation area on the eastern most portion of the park, but does not impact cabin or camp dwelling areas. The 60 DNL contour extends slightly off airport property on the east and west sides of the airport over undeveloped areas. No residential areas or other noise sensitive land uses are affected by either the 65 or the 60 DNL noise contours.

- FUTURE NO ACTION NOISE CONDITION

Exhibit C-2 illustrates the noise contours expected to occur over the long range planning horizon without the planned runway extension or development of the parallel general aviation runway. The increase in the size of the contours is a result of the increase in the number of aircraft operations from 55,686 in 1998 to 127,800 in the long range planning horizon.

The 75 DNL noise contours remain entirely on airport property. The majority of the 70 DNL noise contour remains on airport property with the exception of a small area on the north end of Runway 16L. This area is undeveloped and is therefore, compatible with airport operations.

The 65 DNL noise contour extends approximately 2,000 feet south, off airport property and over areas of undeveloped land. To the north it extends approximately 2,500 feet off airport property, over the Lake Mead National Recreation Area. As with the 1998 contour, the 65 DNL noise contour extends into a small portion of the recreation area on the eastern most portion of the park, but does not impact cabin or camp dwelling areas. The 65 DNL noise contour slightly extends off airport property on the east and west sides. These areas are undeveloped and are considered compatible with airport operations. No residential areas or noise-sensitive land uses are affected by the 65 DNL noise contour.

With no further airfield development, the long range 60 DNL noise contour is expected to extend approximately 6,000 feet south off airport property, over undeveloped land and industrial, transportation, and utilities land areas. The 60 DNL noise contour extends approximately 6,000 feet off airport property to the north, again over undeveloped land, a small portion of a residential area located northeast of Bullhead

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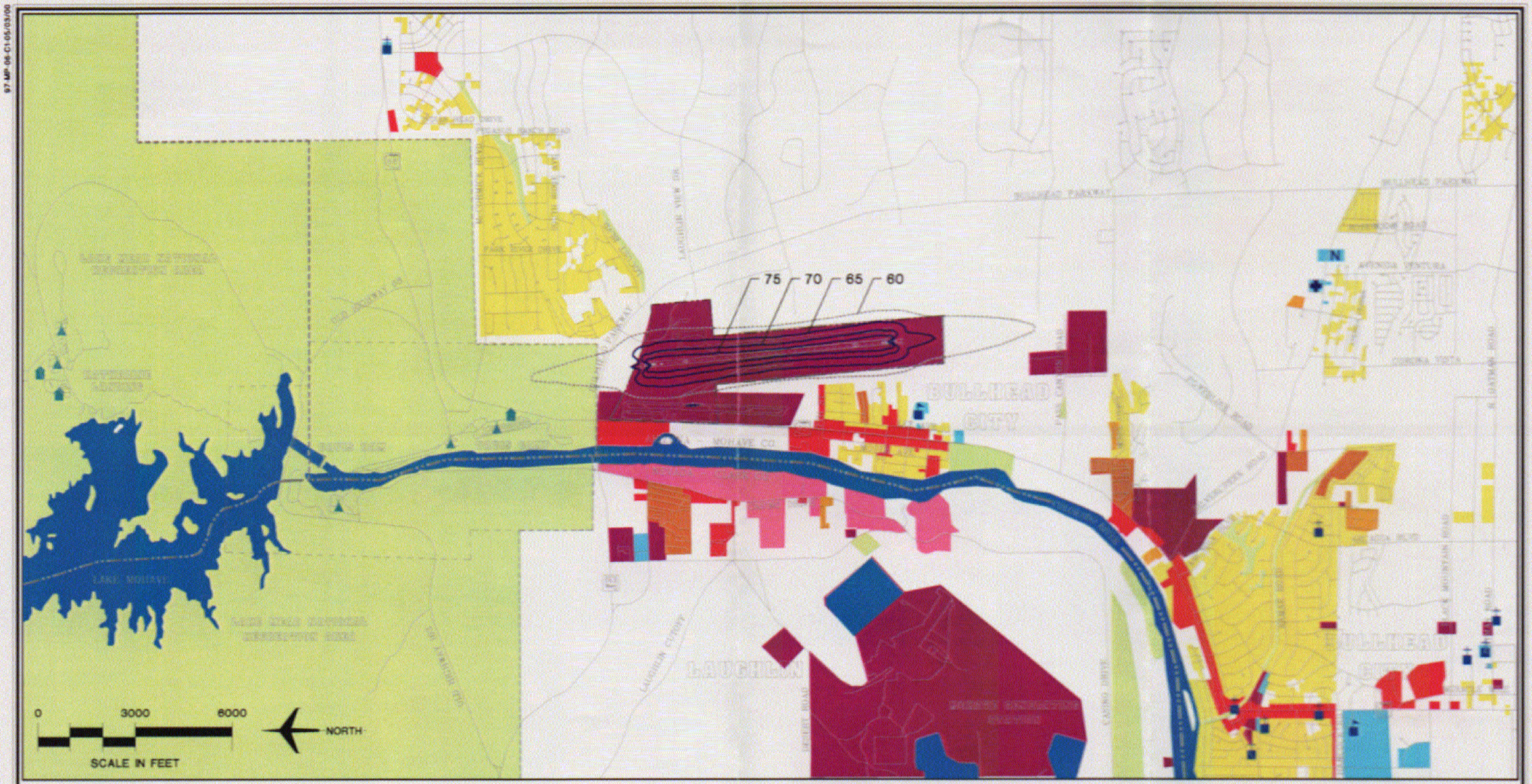


LEGEND

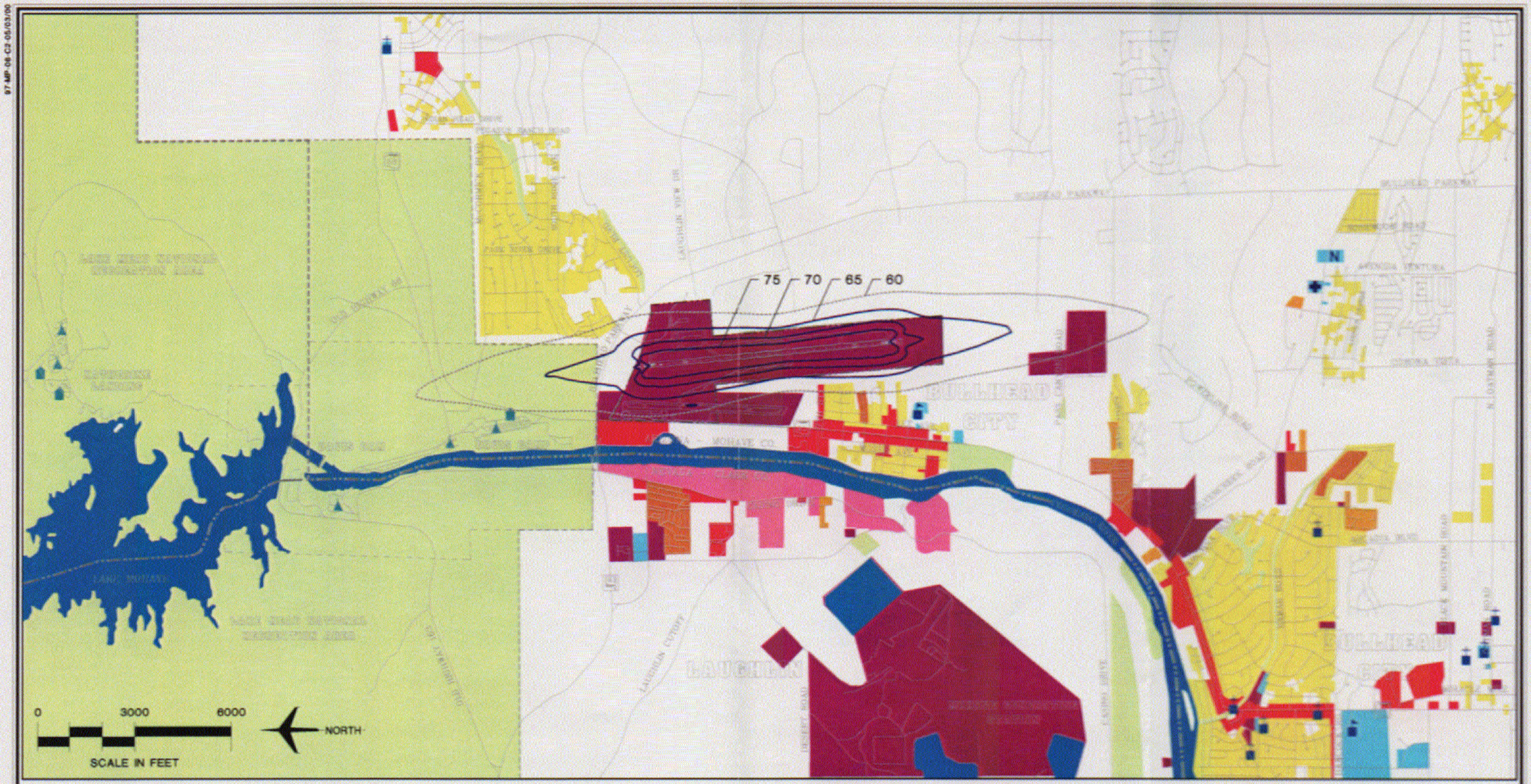
- State Line
- City Limits
- Airport Property Line
- DNL Contours, Marginal Effect
- DNL Contours, Significant Effect
- National Recreation Area
- Davis Dam Protection and Security Area
- Single Family Residential
- Multi-Family Residential
- Residential Park
- Industrial, Transportation, Utilities
- Commercial
- Casino/Resort
- Undeveloped
- Public/Semi-Public
- Schools
- Church
- Hospital
- N Nursing Home
- Park/Open Space
- Cabins, Dwellings
- Campgrounds

Sources: Bullhead City General Plan Update, BRW, Inc., 1996. Coffman Associates Interpretation of Aerial Photo

LAUGHLIN BULLHEAD Airport

Exhibit C-1
EXISTING AIRCRAFT NOISE EXPOSURE

97-MP-06-C2 05/03/00



LEGEND

- State Line
- City Limits
- Airport Property Line
- DNL Contours, Marginal Effect
- DNL Contours, Significant Effect
- National Recreation Area
- Davis Dam Protection and Security Area
- Single Family Residential
- Multi-Family Residential
- Residential Park
- Industrial, Transportation, Utilities
- Commercial
- Casino/Resort
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- Schools
- Church
- Hospital
- N Nursing Home
- Park/Open Space
- Cabins, Dwellings
- Campgrounds

Sources: Bullhead City General Plan Update, BRW, Inc., 1996. Coffman Associates Interpretation of Aerial Photo

LAUGHLIN BULLHEAD Airport

Exhibit C-2

FUTURE AIRCRAFT NOISE EXPOSURE - NO ACTION

Parkway, and a part of the Lake Mead National Recreation Area. No cabin or camp dwelling areas are affected by the 60 DNL noise contour. The 60 DNL extends approximately 1,000 feet off the east side of airport property over undeveloped land and approximately 1,500 feet off the west side of the airport, over both undeveloped areas and a small portion of a residential neighborhood known as "Old Bullhead". Approximately 39 homes are located within the 60 DNL noise contour.

- FUTURE PROPOSED ACTION NOISE CONDITION

Exhibit C-3 illustrates the noise contours expected to occur in the long range planning horizon with the planned 1,500-foot runway extension and development of the 4,700-foot parallel general aviation runway. The increase in the size in the contours, compared with 1998, is a result of the forecasted increase in the number of aircraft operations from 55,686 in 1998 to 127,800 over the long range.

The 75 DNL noise contours remain entirely on airport property. The majority of the 70 DNL noise contour remains on airport property with the exception of a small portion on both the north and south ends. This area is undeveloped and therefore, a compatible land use.

The 65 DNL noise contour extends approximately 2,500 feet south off airport property, over areas of undeveloped land. The 65 DNL noise contour is slightly larger to the south than the No Action 65 DNL noise contour due to the runway extension and use of the new parallel general aviation runway. The 65 DNL noise contour extends approximately 1,500 feet off airport property to the north, over undeveloped land and Lake Mead National Recreation Area. The contour extends into a small portion of the recreation area on the eastern most portion of the park, but does not impact cabin or camp dwelling areas. The 65 DNL noise contour is smaller to the north when compared to the No Action 65 DNL noise contour due to distributing some of the arrival and departure operations onto the proposed parallel runway. By not concentrating all the operations onto one runway (Runway 16L-34R), noise impacts are drawn in closer on the north and south ends, but noise impacts tend to widen along the east and west sides of the airport. The 65 DNL noise contour extends slightly off airport property on the east and approximately 1,000 feet off the west side of the airport. On the west side of the airport, the 65 DNL noise contour extends near several homes located in the eastern most portion of "Old Bullhead", but the 65 DNL noise contour does not extend over any homes in this area. No homes or noise sensitive land uses are affected by the 65 DNL noise contour.

The 60 DNL noise contour extends approximately 6,500 feet south off airport property, over portions of areas of undeveloped land and industrial, transportation, and utility land uses. The contour extends further to the south than the No Action 60 DNL noise contour due to 1,500-foot extension of primary runway. The 60 DNL noise contour extends approximately 5,000 feet off airport property to the north, over undeveloped

land, Lake Mead National Recreation Area, and small portion of a residential area located northeast of Bullhead Parkway. No cabin or camp dwelling areas are affected by the 60 DNL noise contour. The 60 DNL extends approximately 500 feet off the east side of airport property over undeveloped land and approximately 1,000 feet off the west side of the airport over undeveloped areas and a small portion of a residential neighborhood in "Old Bullhead". Approximately 68 homes are located in the 60 DNL noise contour, but as mentioned previously, the 60-65 DNL noise contour range is provided to identify the marginal effects of noise, and no mitigation is required.

Table C-3, Area and Homes Within Noise Contours, reports the estimated size of each contour for 1998 and both the No Action and Proposed Action conditions. Although the 65 DNL noise contour is slightly larger than the 65 DNL No Action noise contour, it does not impact any existing residential areas.

TABLE C-3
Area and Homes Within Noise Contours
Laughlin/Bullhead International Airport

	Noise Contour Area (in square miles)							
Year	60 DNL	# homes in contour	65 DNL	# homes in contour	70 DNL	# homes in contour	75 DNL	# homes in contour
1998 Existing Conditions	0.85	0	0.38	0	0.20	0	0.10	0
Future No Action	1.89	39	0.79	0	0.37	0	0.20	0
Future Proposed Action	1.91	68	0.84	0	0.46	0	0.24	0

Although there are homes located in the 60 DNL noise contour, according to *F.A.R. Part 150 Land Use Guidelines*, no mitigation is required.

COMPATIBLE LAND USE

Aircraft noise contours can be used as a guide to determine potential incompatible land uses in the vicinity of airports. To identify noise sensitive land uses potentially impacted by aircraft noise, the noise contours are overlaid on current and future land use maps for the airport and vicinity.

F.A.R. Part 150 recommends guidelines for planning land use compatibility within various levels of aircraft noise exposure (see Exhibit 5A, Land Use Compatibility Guidelines). As the name indicates, these are guidelines only; *F.A.R. Part 150* explicitly states that determinations of noise compatibility and regulation of land use are purely local responsibilities.

97-MP-08-C3-05/03/00

75 70 65 60

N

0 3000 6000

NORTH

SCALE IN FEET

LEGEND

- State Line
- City Limits
- Airport Property Line
- DNL Contours, Marginal Effect
- DNL Contours, Significant Effect
- National Recreation Area
- Davis Dam Protection and Security Area
- Single Family Residential
- Multi-Family Residential
- Residential Park
- Industrial, Transportation, Utilities
- Commercial
- Casino/Resort
- Undeveloped
- Public/Semi-Public
- Schools
- Church
- Hospital
- N Nursing Home
- Park/Open Space
- Cabins, Dwellings
- Campgrounds

Sources: Bullhead City General Plan Update, BRW, Inc., 1996. Coffman Associates Interpretation of Aerial Photo

LAUGHLIN BULLHEAD Airport

Exhibit C-3

FUTURE AIRCRAFT NOISE EXPOSURE-
WITH PROPOSED AIRFIELD DEVELOPMENT

These guidelines indicate that mobile home parks, outdoor music shells and amphitheaters are incompatible within areas affected by noise levels above 65 DNL. The federal guidelines note, however, that where local communities determine that these uses are permissible, sound attenuation measures should be used. Several other uses, including hospitals, nursing homes, churches, auditoriums, livestock breeding, amusement parks, resorts, and camps, are considered incompatible at levels above 75 DNL.

As discussed in the Noise section, an F.A.R. Part 150, Noise Compatibility Study was prepared for Laughlin/Bullhead International Airport in April 1996 which recommended seven (7) Land Use Management elements. **Table C-4, F.A.R. Part 150 Recommended Land Use Elements**, identifies the recommended land use elements and status of each.

TABLE C-4
F.A.R. Part 150 Recommended Land Use Elements
Laughlin/Bullhead International Airport

Land Use Measures	Status
Designate the Airport Influence Area (AIA) on the General Plan.	Implemented in 1996
Preserve existing General Plan designations for compatible land uses (industrial, commercial, open space) within the AIA.	Implemented in 1996
Rezone for compatible use all areas designated in the General Plan for compatible use within the AIA.	Implemented in 1996
Incorporate airport land use compatibility project review guidelines into the General Plan.	Implemented in 1996
Amend airport height and noise overlay zoning to reflect revised AIA and noise contours.	Not implemented
Amend subdivision regulations to require dedication of avigation easements and recording of fair disclosure agreements within the overlay zones and AIA.	Not implemented
Amend local building code to provide sound insulation standards for noise-sensitive uses within noise overlay zones.	Implemented in 1996

Source: F.A.R. Part 150 Noise Compatibility Program, Laughlin/Bullhead International Airport, April 1996.

Experience has shown that new residential development should be prohibited in areas subject to noise exceeding 65 DNL, unless local conditions indicate that soundproofed residences would not be adversely impacted by noise. The most obvious condition would be the presence of high background noise levels which are often found in high-density urban areas.

Where existing residential uses occur, further expansion should be discouraged. Measures to mitigate noise impacts should be taken if further residential development cannot be prevented. In some communities where there is a severe shortage of developable land, local governments often are compelled to permit more residential development within the 65 DNL contour. In such cases, the FAA strongly recommends soundproofing. A requirement for noise easements as a condition of development approval might also be desirable.

The majority of the existing development in Bullhead City is located southwest of Runway 16R-34L, near the bend in the Colorado River and along State Route 95. Development has, however, occurred all along the Colorado River ("Old" Bullhead and Davis Camp) and to the north and east of the airport (Pegasus Ranch and Lake Mohave Highlands). There is also development south of the airport, along Silver Creek Road. This area includes both a hospital and a nursing home, in addition to residential land uses.

A recreational vehicle park is located immediately north of the airport, the Ridgeview RV Resort, is located on the north side of Bullhead Parkway, across from the entrance to the airport's commercial service terminal area. Davis Camp, a picnic area/campground is located off of SR 95, adjacent to the Colorado River. Carefree Trailer Park is located in "Old" Bullhead.

The nearest school to the airport is Mountain View Elementary School, located just west of the southern end of Runway 16R/34L, in "Old" Bullhead. The only other school in close vicinity to the airport is Mohave High School located approximately three (3) miles southwest of the airport off of SR 95 at Hancock Road.

Based on the results of the noise modeling efforts, the 60 DNL noise contours for the 1998 existing conditions scenario does not extend into any residential areas. Both the 2020 No Action and Proposed Action 60 DNL noise contours extend into residential areas. Approximately 39 homes are affected by the No Action 60 DNL noise contour and approximately 68 homes are affected by the Proposed Action 60 DNL noise contour. The 60 DNL noise contour is provided to identify marginal effects from noise and no mitigation is required by the FAA within the 60-65 DNL contour band.

The 65 DNL noise contours for 1998 and both the 2020 No Action and Proposed Action scenarios do not extend into residential areas. No noise sensitive facilities or land uses are significantly affected by the 1998 or 2020 No Action or 2020 Proposed Action 65 DNL noise contours.

SOCIAL IMPACTS

Social impacts known to result from airport improvement projects are often associated with the relocation of residences or businesses or other community disruptions. Development of the proposed improvements is not expected to result in the relocation or removal of any residence or business.

The proposed development and associated land acquisition are not anticipated to divide or disrupt an established community, interfere with orderly planned development, or create a short-term, appreciable change in employment.

The land proposed for acquisition as part of the airport development program is located at the southern and eastern end of the existing airport property and is currently undeveloped.

INDUCED SOCIOECONOMIC IMPACTS

Induced socioeconomic impacts address those secondary impacts to surrounding communities resulting from the proposed development, including shifts in patterns of population movement and growth, public service demands, and changes in business and economic activity to the extent influenced by the airport development. According to *FAA Order 5050.4A*, "Induced impacts will normally not be significant except where there are also significant impacts in other categories, especially noise, land use or direct social impacts."

Significant shifts in patterns of population movement or growth or public service demands are not anticipated as a result of the proposed development. It is expected, however, that the proposed new airport development would potentially induce positive socioeconomic impacts for the community over a period of years. The airport, with expanded facilities and services would be expected to attract additional users. It is expected to encourage tourism, industry, and trade and to enhance the future growth and expansion of the community's economic base. Future socioeconomic impacts resulting from the proposed development would be expected to be primarily positive in nature.

AIR QUALITY

The U.S. Environmental Protection Agency (USEPA) has adopted air quality standard that specify the maximum permissible short-term and long-term concentrations of various air contaminants. The National Ambient Air Quality Standards (NAAQS) consist of primary and secondary standards for six criteria pollutants which include: Ozone (O_3), Carbon Monoxide (CO), Sulfur Dioxide (SO_x), Nitrogen Oxide (NO_x), Particulate Matter (PM_{10}), and Lead (Pb).

Primary air quality standards are established at levels to protect the public health from harm with an adequate margin of safety. The secondary address affects on crops, vegetation, wildlife, visibility, and climate, as well as affects on materials, economic values, and on personal comfort and well-being. Secondary standards are set at levels necessary to protect the public health and welfare from any known or anticipated adverse affects of a pollutant. Air contaminants increase the aggravation and the production of respiratory and cardiopulmonary diseases.

The airport is located in an area classified as a non-attainment for PM_{10}, and therefore, a general conformity analysis will need to be prepared during any NEPA analysis. Prior to construction of any element of the proposed project, the airport would be required to implement particulate control measures as they relate to construction activities.

Within the Laughlin/Bullhead area, ADEQ coordinates the air quality program. The Department's Air Quality Division issues permits to regulate industrial air pollution sources, regulates vehicle emission, monitors and assesses the ambient air, and develops air quality improvement strategies. The Air Quality Division is typically concerned that new development programs are designed to meet the NAAQS established by the EPA.

During construction of proposed development items, steps should be taken to minimize the amount of particulate matter (dust) generated, including incidental emissions caused by strong winds, as well as tracking of dirt off the construction sites by machinery and trucks. The generation of fugitive dust as a result of construction activities is anticipated due to the movement of heavy construction equipment and the exposure and disturbance of surface soils. This impact is expected to be both temporary and localized. In addition, portable sources of air pollution, such as rock, sand, gravel and asphaltic concrete plants are required to be permitted by ADEQ prior to commencing operations.

WATER QUALITY

Water quality concerns, associated with airport expansion most often relate to domestic sewage disposal, increased surface runoff and soil erosion, and the storage and handling of fuel, petroleum, solvents, etc. Correspondence received from ADEQ, Water Quality Division dated December 22, 1999, (included at the end of this Appendix) recommended pollution prevention actions which should be considered to protect the Colorado River, which flows west of the airport. Although this area of the reach of the Colorado River is not currently listed on the State's 303d list, significant advanced planning efforts are recommended to ensure that neither point or non-point source pollutants generated at the site are allowed to either directly or indirectly impact the river. The following measures are recommended by the ADEQ, Water Quality Division.

- "Management of storm water runoff is a principal concern. The flash flood nature of the watershed and the intensity of desert storms contributes to an environmental condition whereby sediment and sediment transported pollutants can pose a significant risk to regional surface water resources. Storm water management planning should focus upon both short term and long term management criteria for the facility.

- Water quality monitoring of groundwater in the Bullhead watershed has documented serval zones where nitrogen is a problem. Design efforts for the airport improvements should address potentials for discharge of nitrogen to regional aquifers and specific implementation measures for minimizing those potential discharges."

While not required, ADEQ recommends that the Mohave County Airport Authority prepare a water quality management plan for the proposed facility prior to the start of construction activities. The plan would identify specific areas where the facility could pose a risk to regional water quality and a listing of possible management practices that could be used to address those potential risks. In its simplest form the plan would identify:

- "Adjacent dry washes and constructed drainage points from which pollutants could be discharged from the proposed airport facility to the Colorado River."

The newer part of the airport, which is located on the east side of the runway and includes the commercial service terminal area and airport traffic control tower, was hooked up to the Bullhead Sanitation District sewer system in mid-1996. A wastewater treatment plant is located approximately two (2) miles south of the airport, west of the Bullhead Parkway. The original part of the airport, which includes the west side general aviation area is still on a septic system but is expected to be hooked up to the sewer system by the end of the year 2000. With the anticipated growth in the airport vicinity, the generation of sanitary sewage on the airport is expected to increase.

Construction of the proposed improvements will result in an increase in impermeable surfaces and a resulting increase in surface runoff from both landside and airside facilities. The proposed development might result in short-term impacts on water quality, particularly suspended sediments, during and shortly after precipitation events during the construction phase. Recommendations established in FAA Advisory Circular 150/5370-10 *Standards for Specifying Construction of Airports, Item P-156, Temporary Air and Water Pollution, Soil Erosion and Siltation Control* should be incorporated in project design specifications to mitigate potential impacts. These standards include temporary measures to control water pollution, soil erosion, and siltation through the use of fiber mats, gravel, mulches, slope drains, and other erosion control methods.

ADEQ, Water Quality Division also recommended in their correspondence that pollution prevention actions should be considered during the construction phase of the proposed project to protect the Colorado River, which flows west of the airport. The following measures were suggested.

- Construction phase activities will result in significant levels of ground disturbance which can greatly increase the potential for off site sediment discharge. Design efforts for airport improvements should identify the implementable practices that will be utilized by construction contractors to minimize soil loss to reduce potentials for sediment discharge to the adjacent Colorado River."

- Identify Best Management Practices (BMPs) that could be implemented to minimize any pollutant discharges that may be associated with the airport facility and could reach the Colorado River by way of above dry washes and constructed drains; and

- Identify methods which could be used to evaluate whether the BMPs that will be used to minimize pollutant loadings to the water bodies are effective."

In accordance with Section 402(p) of the *Clean Water Act*, as added by Section 405 of the *Water Quality Act of 1987*, a *National Pollution Discharge Elimination System* (NPDES) General Permit is required from the Environmental Protection Agency. NPDES requirements apply to industrial facilities, including airports, and all construction projects that disturb five or more acres of land.

With regard to construction activities, the Mohave County Airport Authority and all applicable contractors will need to comply with the requirements and procedures of the NPDES General Permit, including the preparation of a *Notice of Intent* and a *Stormwater Pollution Prevention Plan*, prior to the initiation of project construction activities.

The construction program, as well as specific characteristics of project design, should incorporate BMPs to reduce erosion, minimize sedimentation, control non-stormwater discharges, and protect the quality of surface water features potentially affected. BMPs are defined as nonstructural and structural practices that provide the most efficient and practical means of reducing or preventing pollution of stormwater. The selection of these practices at Laughlin/Bullhead International Airport should be based on the site's characteristics and focus on those categories of erosion factors within the contractor's control, including: (1) construction scheduling, (2) limiting exposed areas, (3) runoff velocity reduction, (4) sediment trapping, and (5) good housekeeping practices. Inspections of the construction site and associated reporting may be required.

In their correspondence (included at the end of this Appendix), the U.S. Department of the Army, Corps of Engineers (ACOE), expressed that construction activities associated with airport development may require a Department of the Army permit issued under Section 404 of the Clean Water Act. They noted that a 404 permit would be required for the discharge of dredges or fill material into waters of the United States, including adjacent wetlands. Waters of the U.S. section of this report includes a more comprehensive discussion of wetland impacts.

Spills, leaks and other releases of hazardous substances into the local environment are often a concern at airports due to fuel storage, fueling activities and maintenance of aircraft. Stormwater flowing over impermeable surfaces may pick up petroleum product residues and, if not controlled, transport them off site.

Also of crucial concern would be spills or leaks of substances that could filter through the soils and contaminate groundwater resources. As growth in aviation activity occurs, additional fuel storage facilities will be necessary. Fuel storage facilities must be designed, constructed and maintained in compliance with Federal, State and local regulations, and must be registered with ADEQ. These regulations include standards for underground storage tank construction materials, the installation of leak or spill detection devices, and stormwater discharge.

DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(F) LANDS

Paragraph 47e, *FAA Order 5050.4A* provides the following.

> *(7)(a) "Section 4(f) provides that the Secretary shall not approve any program or project which requires the use of any publicly-owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state or local significance, or any land from an historic site of national, state or local significance as determined by the officials having jurisdiction thereof unless there is no feasible and prudent alternative to the use of such land and such program includes all possible planning to minimize harm."*
>
> *(7)(b) "...When there is no physical taking but there is the possibility of use of or adverse impacts to Section 4(f) land, the FAA must determine if the activity associated with the proposal conflicts with or is compatible with the normal activity associated with this land. The proposed action is compatible if it would not affect the normal activity or aesthetic value of a public park, recreation area, refuge, or historic site. When so construed, the action would not constitute use and would not, therefore, invoke Section 4(f) of the DOT Act."*

The closest Section 4(f) land to the airport is the Lake Mead National Recreation Area. The southern boundary of this area is located less than 0.4 miles north of the airport. At the time of the 1988 Master Plan, the Department of the Interior, National Park

Service requested that flight tracks avoid the area north of Davis Dam, a popular recreation destination. The mitigation measure adopted as part of the Finding of No Significant Impact (FONSI) for the 1988 Master Plan stated the following:

> *"For mitigation on the Lake Mead National Recreation Area: Aircraft departures to the north from Runway 16L-34R under visual flight rule (VFR) conditions will climb straight out for two (2) nautical miles and then turn to the west and south, exiting the recreation area. Aircraft departures to the north from Runway 16L-34R under instrument meteorological conditions (IMC) will climb straight out for two (2) nautical miles and then turn to the east, exiting the park. Aircraft landing from the north to the south on Runway 16L-34R will approach the airport generally from the east and will turn on to the final straight-in segment at a point ranging from 1 to 2 nautical miles north of Runway 16L-34R. When wind and weather conditions do not require approach and departure procedures north of the airport, a preferential runway use program will provide for departures to the south and arrivals from the south. A Notice to Airmen will publicize this preferential runway use procedure. Pilots operating VFR over parkland will be advised to fly not less than 2,000 feet above the surface, in accordance with the Interagency Agreement between the FAA and the National Park Service and with FAA Advisory Circular 91-36C."*

A local park, Community Park, is located about 0.7 miles west-southwest of the runway. It is located in a residential area of "Old Bullhead".

Correspondence was received from the United States Department of the Interior, National Park Service, Lake Mead National Recreation Area which outlined concerns regarding overflights of the Davis Camp and Katherine's Landing and about the effects of the improvements. This letter is included at the end of this Appendix.

The primary airfield changes associated with the Master Plan development are an extension of the existing runway to the south and construction of a parallel runway. The southern extension of the primary runway will move the departure roll 1,500 feet further south and away from the Recreation Area. This will place aircraft higher over the Recreation Area and also allow more room to make turns prior to the Davis Camp and Katherine's Landing.

The smaller parallel runway will also serve to direct small aircraft away from the Recreation Area, as this runway would also be located further south than the current runway threshold.

As discussed in the Noise section of this evaluation, **Exhibit C-1** identifies the 60 DNL noise contour extending approximately 3,000 feet off airport property to the north and impacting a small area on the eastern most edge of the Lake Mead National Recreation Area. The 60 DNL noise contour does not impact cabin or camp dwelling areas. The

60 DNL is shown to identify areas of marginal impact. The Lake Mead National Recreation Area is not impacted by the existing conditions 65 DNL noise contour.

As shown in **Exhibit C-2**, both the 60 and 65 DNL noise contours extend into a small area on the eastern most edge of the Lake Mead National Recreation Area. Neither the 60 or 65 DNL noise contour impacts cabin or camp dwelling areas. These contours represent the long range noise conditions without the planned airport improvements.

Exhibit C-3 illustrates the noise contours expected to occur in the year 2020 with the planned 1,500-foot runway extension and development of the 4,700-foot parallel general aviation runway. As with the future No Action Noise Contours, both the 60 and 65 DNL noise contours extend into a small area on the eastern most edge of the Lake Mead National Recreation Area. The future Proposed Action contours impact a smaller area of the park when compared to the future No Action noise contours. Neither the 60 or 65 DNL noise contour impacts cabin or camp dwelling areas.

According to FAA Order 5050.4A, "If the proposed airport project involves a physical taking or other use of any Section 4(f) land, an initial environmental assessment shall determine if the requirements of Section 4(f) are applicable. When there is no physical taking but there is the possibility of use of or adverse impacts to Section 4(f) land, the FAA must determine if the activity associated with the proposal conflicts with or is compatible with the normal activity associated with this land." To address direct and indirect noise impacts to the Lake Mead National Recreation Area, a special Section 4(f) study may be required in conjunction with NEPA review of the proposed projects.

HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL AND CULTURAL RESOURCES

An Environmental Assessment (EA) was prepared in 1988 for construction of the now existing runway and associated landside development. An archeological survey on 1,215 acres was included in the analysis. Based on the results of the survey, the Arizona State Historic Preservation Office (SHPO) concurred that no cultural or historic resources were located on site.

In 1993, an EA was prepared to assess the impacts of widening the runway, associated taxiways and installation of an instrument approach to Runway 34. The SHPO was contacted and provided correspondence clearing the site of any impacts to cultural or historic resources based on previous soil disturbances in the proposed project area.

A categorical exclusion (CatEx) was prepared on the area that was acquired for the Runway 34 runway protection zone (RPZ). Following review of archeological survey for this area, the site was cleared by the SHPO.

The SHPO was contacted regarding the potential presence of cultural resources within the area of the proposed development. In their response (included at the end of this Appendix), they stated they were aware of previous historic reports that were issued on the airport site, but, were unable to comment on the presence of any historic properties based on the proposed project.

Based on the property acquisitions that have been identified, there are areas east and west of the runway area that have not been previously surveyed for cultural or historical resources. During the EA phase of the proposed project, a survey of the proposed acquisition areas should be conducted to determine whether significant resources are present, and whether any mitigation measures are necessary prior to the implementation of the proposed development.

Should archaeologic resources be encountered during any preconstruction or construction activities, work should cease in the area of the discovery and the SHPO be notified immediately, pursuant to 36 CFR 800.11.

BIOTIC COMMUNITIES AND THREATENED AND ENDANGERED SPECIES OF FLORA AND FAUNA

As part of this evaluation, the U.S. Department of the Interior, Fish and Wildlife Service (USFWS) and the Arizona Game and Fish Department (AG&F) were contacted to request information regarding potential impacts to threatened or endangered species or species of special concern.

According to their letter (included at the end of this Appendix), the AG&F Heritage Data Management System, identified the presence of the Sonoran desert tortoise (*Gopherus agassizii*) in the vicinity of the airport and provided guidelines for handling the tortoise. This particular species is considered to be "wildlife of special concern in Arizona." The letter also states that "the airport expansion will occur entirely within Mohave Desert scrub habitat located in the Bullhead City limits. Due to the area's proximity to urban developments, the habitat is of medium to low value for wildlife species." They also identified that some washes may be affected by the proposed project and recommended measures that will not impede wildlife movements.

Following is a list federally threatened and/or endangered species that have been know to exist within Mohave County.

Threatened

- Jones' Cycladenia (Cycladenia Humilis Var Jones II)
- Siler Pincushion Cactus (Pediocactus Sileri)

- Desert Tortoise, Mohave Population (Gopherus Agassizii)
- Bald Eagle (Haliaeetus Leucocephalus)
- Mexican Spotted Owl (Strix Occidentialis Lucida)

Endangered

- Arizona Cliffrose (Purshia Subintegra)
- Hualapai Mexican Vole (Microtus Mexicanus Hualpaiensis)
- Bonytail Chub (Gila Elegans)
- Humpback Chub (Gila Cypha)
- Razorback Sucker (Xyrauchen Texanus)
- Virgin River Chub (Gila Seminuda)
- Woundfin (Plagopterus Argentissimus)
- Southwestern Willow Flycatcher (Empidonax Traillii Extimus)
- Yuma Clapper Rail (Rallus Longirostris Yumanensis)

In addition, one experimental/nonessential, California Condor (Gymnops Californianus), and two candidate federally endangered/threatened species, Fickeisen Pincushion Cactus (Pediocactus Peeblesianus Fickeiseniae) and the Paradox Milk-Vetch (Astragalus Holmgreniorum), were also identified within Mohave County.

The list of threatened and endangered species identified by the USFWS was reviewed and it was determined that the critical habitats needed to sustain these identified species do not exist within the proposed project area. The critical habits identified for the threatened and endangered species listed to potentially occur in Mohave County primarily consist of free flowing water areas, flat lands, rocky slopes and bajadas, or forested areas. Vegetation around the airport area is generally limited to scrub-shrub species and native desert grasses. The airport area, therefore, lacks these types of habitat characteristics.

According to correspondence received from the Arizona Department of Agriculture, the Department recommends that, "If any protected native plants exist on site, they be avoided or transplanted preferably on site". In addition, the Department recommends having a survey prepared to identify the type and number of protected plants present.

Prior to development of the proposed airport projects, a biological survey may be required to evaluate the types of native vegetation to be disturbed by the proposed development and to determine whether any impacts to the above referenced species would be anticipated.

COASTAL MANAGEMENT PROGRAM AND COASTAL BARRIERS

Laughlin/Bullhead International Airport is not located within the jurisdiction of a State Coastal Management Program. The Coastal Zone Barrier resources system consists of undeveloped coastal barriers along the Atlantic and Gulf Coasts. These

resources are well outside of the sphere of influence of Laughlin/Bullhead International Airport and its vicinity, and do not apply to the proposed development.

WILD AND SCENIC RIVERS

According to the National Park Service's list of Wild and Scenic Rivers, there are no wild and scenic rivers located within the vicinity of the proposed development. No impacts to wild and scenic rivers are anticipated as a result of airport development.

WATERS OF THE U.S., INCLUDING WETLANDS

Several large washes cross airport property, however, the amount of water in them is limited due to the series of dikes and dams constructed east of Bullhead Parkway. These flood control measures direct the storm flow towards the north end of the airport into a drainage channel which empties into the Colorado River.

Prior to development of the proposed airport projects, the airport sponsor should request a jurisdictional delineation from the U.S. Army Corps of Engineers for the development area including the future proposed airport property. This delineation would identify any waters of the U.S., including wetlands and intermittent streams, under jurisdiction of this agency. As mentioned previously, correspondence was received from the Department of the Army, Corps of Engineers, which stated that the project may require a U.S. Army Corps of Engineers permit per *Section 404 of the Clean Water Act*. They noted that a 404 permit would be required for the discharge of dredges or fill material into the waters of the United States, including adjacent wetlands.

FLOODPLAINS

The Mohave County Flood Control District constructed a series of dikes and channels east of the Laughlin/Bullhead International Airport which prevents stream flow from the Black Mountains from impacting the Bullhead Parkway, runway and other airport facilities. This same hydraulic control system will protect the proposed projects. According to representatives of the Mohave County Flood Control District and the Bullhead City Engineering Department, the Federal Emergency Management Agency revised the Flood Insurance Rate Maps in the area of the airport, reducing the flood hazard zone from Zone AO to Zone X. Zone X denotes the area is no longer within the 100-year or the 500-year floodplain. The northern portion of the airport property, adjacent to Locust Road and the flood control channel, remains within a FEMA designated Zone A, 100-year floodplain. Due to all of the flood channel improvements and modifications in this area, it is recommended that the Mohave County Flood

Control District be contacted to review surface water management for the airport property prior to construction activities in this area.

FARMLAND

Correspondence was also received from the United States Department of Agriculture, Natural Resources Conservation Service (NRCS), (included at the end of this Appendix) which stated that the proposed new project, if implemented as planned, is exempt from the requirements of the Farmland Protection Policy Act (FPPA) - as revised in 1994, that excludes land which is already in or is committed to urban development, currently used as water storage, or land that is not prime or unique farmland. Since no cultivated or irrigated farmland is located within the airport property or the property to be acquired, no impacts to prime or unique farmland are anticipated.

ENERGY SUPPLY AND NATURAL RESOURCES

Potable water to the airport is provided by North Mohave Valley Corporation and electricity is provided by the Mohave Electric Cooperative. Southwest Gas provides natural gas service to the east side of the airport. There is currently no natural gas service on the west side of the airport. The City of Bullhead City provides the commercial service area portion of the airport with sewer services. The west side general aviation area is currently on a septic system, however, connection to the sewer system is anticipated to occur by the end of 2000. According to correspondence received from North Mohave Valley Corporation, sufficient water is available to accommodate the proposed airport expansion. This correspondence is included at the end of this Appendix.

No concern regarding existing energy production facilities or known energy resource supplies was expressed by the agencies for this proposed development. A slight increase in energy demand will likely occur as a result of the proposed project. Additional electricity will be needed for the proposed runway and taxiway extensions, new general aviation runway, new/relocated navigation and runway lights, the terminal building, hangars and parking areas. In addition to this electric demand, expenditures of manpower, fuel, electricity, chemicals, water and other forms of energy will be necessary to construct the improvements and to provide for maintenance and operation of the facilities. Impacts to energy supplies and natural resources from the proposed project are not expected to be significant.

LIGHT EMISSIONS

A variety of lighting aids are available at Laughlin/Bullhead International Airport to facilitate airport identification, approaches and landings, both at night and during

adverse weather conditions. Laughlin/Bullhead International Airport is a equipped with a lighted beacon which is located on a hill northeast of the commercial terminal building. The airport is equipped with three lighted windcones, one at the north end of the runway, one at the south end, and one, complete with segmented circle, near the juncture with Taxiway H.

Runway 16L-34R is equipped with Medium Intensity Runway Lights (MIRLs) and threshold lights, both of which outline the runway with white lights. Parallel Taxiway A and all connecting taxiways are equipped with Medium Intensity Taxiway Lights (MITLs) which outline the taxiways in blue lights.

Runway 16L-34R is also equipped with a four box Precision Approach Path Indicator (PAPI-4) light system on the left side of each runway approach end. These systems consist of two-color, high intensity lights, focused at predetermined angles (3.0 degrees) to provide visual decent guidance information to the pilot during the final approach to the runway.

The approach ends of Runways 16L and 34R are both equipped with Runway End Identifier Lights (REILs). REILs are high intensity strobe lights that provide the pilot with a positive identification of the runway threshold. These lights are particularly useful during periods of low visibility or at night.

The proposed lighting improvements for the 20-year development plan include the installation of additional Medium Intensity Runway Lighting (MIRL) on the proposed runway extension and new general aviation runway, additional Medium Intensity Taxiway Lighting (MITL) on the proposed taxiway, extension and new taxiway exits, installation of MALSR on Runway 34R, REILs on Runway 16R/34L, and installation of PAPIs on Runway 16R/34L. It is also anticipated that outdoor security lighting would be installed within the automobile parking areas, aircraft parking apron and surrounding all terminal and hangars on the east side of the airport.

The location of the proposed west side parallel general aviation runway is significantly higher in elevation than the homes or light-sensitive land uses located in "Old Bullhead". Because of the distance from the airfield to light-sensitive land uses, impacts associated with any new light emissions are not expected to be significant.

SOLID WASTE

Slight increases in the generation of solid waste are anticipated as a result of the proposed development and overall growth in aviation activity. Because landfills can attract birds for feeding, their location near airports is not desired.

Refuse from the Laughlin/Bullhead International Airport is currently collected by a private company, Laidlaw Waste Systems, Inc., and transported to the Mohave County

Landfill in Mohave Valley, approximately 20 miles south of the airport. The old County landfill, the Silver Creek Landfill, is located approximately 1.5 miles south of the southern end of the runway. The old landfill was officially closed in 1988/89 and has a minimum of two (2) feet of topsoil covering it. Mohave County has regulations that would prohibit the location of a landfill in the vicinity of an airport facility.

CONSTRUCTION IMPACTS

Construction activities have the potential to create temporary environmental impacts at an airport. These impacts primarily relate to noise resulting from heavy construction equipment, fugitive dust emissions resulting from construction activities, and potential impacts on water quality from runoff and soil erosion from exposed surfaces.

A temporary increase in particulate emissions and fugitive dust may result from construction activities. The use of temporary dirt access roads would increase the generation of particulates. Dust control measures, such as watering exposed soil areas, will need to be implemented to minimize this localized impact.

Any necessary clearing and grubbing of construction areas should be conducted in sections or sequenced to minimize the amount of exposed soil at any one time. All vehicular traffic should be restricted to the construction site and established roadways.

The provisions contained in *FAA Advisory Circular 150/5370-10, Standards for Specifying Construction of Airports, Temporary Air and Water Pollution, Soil Erosion, and Siltation Control* will be incorporated into all project specifications. During construction, temporary dikes, basins, and ditches should be utilized to control soil erosion and sedimentation and prevent degradation of off-airport surface water quality. After construction is complete, slopes and denuded areas should be reseeded to aid in the vegetation process.

The project design and construction of the Proposed Action will need to incorporate Best Management Practices (BMPs) to reduce erosion, minimize sedimentation, and control non-storm water discharges, in order to protect the quality of surface water features on and off the airport. BMPs are defined as nonstructural and structural practices that provide the most efficient and practical means of reducing or preventing pollution of storm water.

CONCLUSION

Based on the review of correspondence provided by various federal, state and local agencies, potential environmental issues and considerations anticipated as a result of

the development and operation of Laughlin/Bullhead International Airport have been identified.

As a result of the NEPA process, mitigation measures may be recommended to limit the potential impacts related to a number of these resources. Please note that as more specific information is gathered through the formal environmental process, additional issues may arise. During the analysis performed for this environmental evaluation, several critical categories were identified and include the following:

- Noise Impacts - review of potential noise impacts on surrounding noise sensitive land uses;
- Section 4(f) Impacts - review of potential noise impacts on Lake Mead National Recreation Area;
- Waters of the U.S. - may require a jurisdictional delineation;
- Biological - may require a biological assessment; and
- Historical/Cultural - may require additional survey be prepared.

Laughlin/Bullhead Municipal Airport

Letters received from Agencies on the Environmental Evaluation

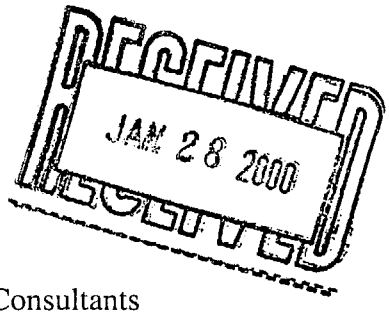
Agency	Date Received
United States Department of Agriculture, Natural Resources Conservation Service	January 20, 2000
United States Department of the Army, Corps of Engineers	December 28, 1999
United States Department of the Interior, U.S. Fish and Wildlife Service	December 16, 1999
United States Department of the Interior, National Park Service	December 29, 1999
Arizona Department of Agriculture, Plant Services Division	December 6, 1999
Arizona Department of Environmental Quality Water Quality Division	December 22, 1999
Arizona Game and Fish Department	December 29, 1999
Arizona State Parks State Historic Preservation Office	January 13, 2000
North Mohave Valley Corp	December 9, 1999

USDA

United States
Department of
Agriculture

Natural
Resources
Conservation
Service

3003 N. Central Ave.
Suite 800
Phoenix, AZ
85012-2495



January 20, 2000

Ms. Kate W. May
Airport/Environmental Planner
Coffman Associates – Airport Consultants
11022 N. 28th Drive, Suite 240
Phoenix, Arizona 85029

Dear Ms. May:

This response is in regard to your letter dated December 3, 1999, concerning the environmental evaluation for proposed improvements tot he Laughlin/Bullhead International Airport in Bullhead City, Arizona.

The Natural Resources Conservation Service (NRCS) has general responsibility, nationwide, for implementing the Farmland Protection Policy Act (FPPA) and to review projects that may affect prime farmland and/or wetlands associated with agriculture. After reviewing the information provided, the following is noted:

1- The proposed new project, if implemented as planned, is exempt from the requirements of the FPPA - as revised in 1994, that excludes land which is already in or is committed to urban development, currently used as water storage, or land that is not prime or unique farmland.
2- We do not see any immediate concerns or impacts that would directly affect wetland areas associated with agriculture.

Should you have questions, please feel free contact Jeff Schmidt, Community Assistance Coordinator at 602.280.8818. Thank you again for the chance to review the proposed project.

Sincerely,

Mike Somerville

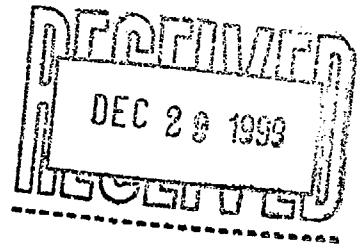
MICHAEL SOMERVILLE
State Conservationist

cc:
Jim Briggs, Assistant State Conservationist, NRCS, Phoenix, Arizona
Charles T. Stehly, District Conservationist, NRCS, Kingman, Arizona
Jeff Schmidt, Community Assistance Coordinator, NRCS, Phoenix, Arizona

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
TUCSON PROJECT OFFICE, REGULATORY BRANCH
5205 EAST COMANCHE STREET
DAVIS-MONTHAN AFB, ARIZONA 85707-5000

December 28, 1999

REPLY TO ATTENTION OF:
Office of the Chief
Regulatory Branch



Coffman Associates
ATTN: Ms. Kathryn W. May, AICP
11022 N 28th Dr Ste 240
Phoenix, Arizona 85029-5635

File Number: 2000-00346-MB

Dear Ms. May:

This is in response to your request dated December 3, 1999 for comments regarding the proposal by the Mohave County Airport Authority to expand the existing airport including the extension of the Runway 16L/34R and construction of a new runway possibly involving discharges of fill material in the unnamed washes at the existing Laughlin/Bullhead International Airport (Section 31, T21N, R21W), Bullhead City, Mohave County, Arizona.

This activity may require a Department of the Army permit issued under Section 404 of the Clean Water Act. A Section 404 permit is required for the discharge of dredged or fill material into the "waters of the United States," including adjacent wetlands. Examples of activities requiring a permit are placing bank protection, temporary or permanent stock-piling of excavated material, grading roads, grading (including vegetative clearing operations) that involves the filling of low areas or leveling the land, constructing weirs or diversion dikes, constructing approach fills, and discharging dredged or fill material as part of any other activity. Should an individual permit be required, an alternatives analysis under the Section 404(b)(1) must be conducted. We urge the applicant to contact our office as soon as possible in the planning process.

If you have questions, please contact me at (520) 670-5021. Please refer to file number 2000-00346-MB in your reply.

Sincerely,

Marjorie E. Blaine
Senior Project Manager
Arizona Section, Regulatory Branch

98-MP-18

United States Department of the Interior

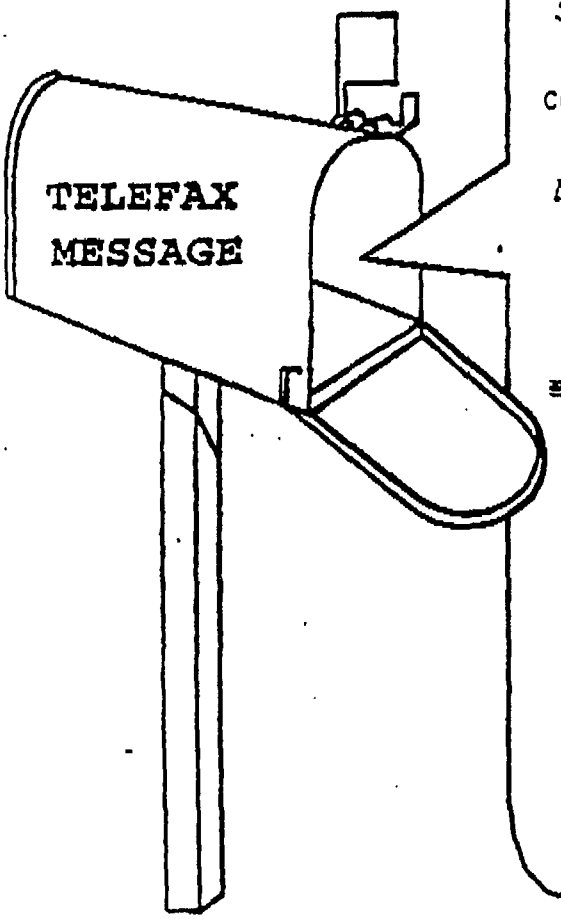
NATIONAL PARK SERVICE

LAKE MEAD NATIONAL RECREATION AREA

601 Nevada Highway

BOULDER CITY, NEVADA 89005

IN REPLY REFER TO:



Date: 12/29/99

To: Katherine May

From: Jim Holland

Subject:

COVER PLUS 3 pages

Message: A hard copy will follow by mail

To verify receipt of message or report problems with transmission, please contact the Superintendent's Office.

Superintendent Alan O'Neill

(702)293-8920

FAX (702)293-8936

United States Department of the Interior

NATIONAL PARK SERVICE
Lake Mead National Recreation Area
601 Nevada Highway
Boulder City, Nevada 89005-2426

IN REPLY REFER TO:

D18 (LAME-M)

December 29, 1999

Ms. Kathryn W. May, AICP
Airport/Environmental Planner
Coffman Associates
11022 No. 28th Drive, Suite 240
Phoenix, Arizona 85029

Dear Ms. May:

We have reviewed the information provided in your letter addressed to Park Planner Jim Holland dated December 3, 1999, concerning the environmental issues that may be associated with the proposed expansion of the Laughlin/Bullhead International Airport.

We understand the proposal includes the following:

> . . . a 1,500-foot runway extension to the south for primary Runway 16L/34R, the purpose of which is to better serve the commercial and larger business jet traffic. In addition, a 4,700-foot parallel runway is proposed primarily for use by general aviation users. The Airport Master Plan Update identified relocating the general aviation land-side facilities to the east side of the airport which will allow all terminal operations to be located on one side of the airport and better utilize support functions, such as fuel storage, maintenance and ground handling. In addition, associated lighting improvements and construction of a new commercial service terminal and access roads are being proposed. To facilitate the proposed airport improvements, approximately 184 acres will be acquired.

Throughout the development of this airport, the National Park Service has consistently stated its concern for the recreational setting for lowering Lake Mohave and, specifically, the Davis Camp and Katherine Landing developed areas. The Katherine Landing developed area is one of the most visited areas within Lake Mead National Recreation Area (NRA); Lake Mead NRA is one of the most visited units of the National Park System, with over 9 million visitors annually. Katherine Landing receives 1.4 million annual visitors, the majority seeking water-based outdoor recreation opportunities.

With the extension of the runway to the south by 1,500-feet, accommodating the commercial and larger business jet traffic, how will the Davis Camp and Katherine Landing areas be affected?

- What will the impact of larger aircraft operations be on these two recreation sites? We understand the majority of departures are to the south due to the prevailing winds, but occasionally the departures are to the north. In the past, aircraft taking off to the north were directed to turn east prior to the Katherine developed area. Can and will the larger aircraft be similarly directed?

- During the early development of the airport, we were informed there would be no nighttime commercial operations over the recreation area to protect the lakeside recreational setting and the Katherine Landing developed area. We have gradually seen the introduction of nighttime commercial operations, and they are increasing. With the runway extension, how would nighttime operations affect Lake Mead National Recreation Area?

- In the past, aircraft landing from the north were instructed to stay over the water until passing south of the Katherine Landing developed area, then aligning with the runway. Will the larger aircraft be required to take a similar course?

- The addition of a 4,700-foot general aviation runway is also proposed. How will the addition of this facility affect the approach and take-off routes (described above) for the primary runway traffic?

We understand that under some weather conditions, the maneuvers presented above are not appropriate, and it is up to the pilot to make the final decision. We have observed these conditions being more frequently violated in the recent past.

We have also consistently identified Spirit Mountain as an issue associated with the operation of the Laughlin/Bullhead International Airport. What impact would larger aircraft have on this culturally significant resource?

While it may appear the majority of our concerns are operational in nature, the expansion of the airport will affect the nature and type of aircraft and, therefore, the flexibility to implement mitigation measures, such as those described above, will be greatly reduced. The result is that there could be significant impact to the Katherine Landing developed area and the southern portion of Lake Mohave.

We appreciate the opportunity to highlight these social and environmental concerns associated with the extension of the runway and the protection of the recreational setting within Lake Mead NRA. Should you have questions or require additional information, please continue to contact Jim Holland at (702) 293-8986.

Sincerely,

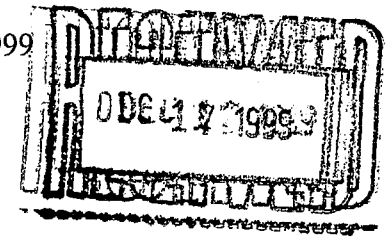
for Alan O'Neill
Superintendent

cc:
Mr. Norm Hicks
Laughlin/Bullhead International Airport
600 Highway 95
Bullhead City, Arizona 86429

United States Department of the Interior
U.S. Fish and Wildlife Service
2321 W. Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
(602)640-2720 FAX (602)640-2730

In Reply Refer To:
AESO/SE
2-21-87-I-107

December 16, 1999



Ms. Kathryn W. May, AICP
Airport/Environmental Planner
Coffman Associates
11022 North 28th Drive, Suite 240
Phoenix, Arizona 85029

RE: Proposed Improvements to Laughlin/Bullhead International Airport, Bullhead City, Arizona

Dear Ms. May:

This letter responds to your December 3, 1999, request for an inventory of threatened or endangered species, or those that are proposed to be listed as such under the Endangered Species Act of 1973, as amended (Act), which may potentially occur in your project area (Mohave County). The enclosed list may include candidate species as well. We hope the enclosed county list of species will be helpful. In future communications regarding this project, please refer to consultation number 2-21-87-I-107.

The enclosed list of the endangered, threatened, proposed, and candidate species includes all those potentially occurring anywhere in the county, or counties, where your project occurs. Please note that your project area may not necessarily include all or any of these species. The information provided includes general descriptions, habitat requirements, and other information for each species on the list. Also on the enclosed list is the Code of Federal Regulations (CFR) citation for each list and is available at most public libraries. This information should assist you in determining which species may or may not occur within your project area. Site-specific surveys could also be helpful and may be needed to verify the presence or absence of a species or its habitat as required for the evaluation of proposed project-related impacts.

Endangered and threatened species are protected by Federal law and must be considered prior to project development. If the action agency determines that listed species or critical habitat may be adversely affected by a federally funded, permitted, or authorized activity, the action agency must request formal consultation with the Service. If the action agency determines that the planned action may jeopardize a proposed species or destroy or adversely modify proposed critical habitat, the action agency must enter into a section 7 conference with the Service. Candidate species are those which are being considered for addition to the list of threatened or endangered species. Candidate species are those for which there is sufficient information to support a

proposal for listing. Although candidate species have no legal protection under the Act, we recommend that they be considered in the planning process in the event that they become listed or proposed for listing prior to project completion.

If any proposed action occurs in or near areas with trees and shrubs growing along watercourses, known as riparian habitat, the Service recommends the protection of these areas. Riparian areas are critical to biological community diversity and provide linear corridors important to migratory species. In addition, if the project will result in the deposition of dredged or fill materials into waterways or excavation in waterways, we recommend you contact the Army Corps of Engineers which regulates these activities under Section 404 of the Clean Water Act.

The State of Arizona protects some plant and animal species not protected by Federal law. We recommend you contact the Arizona Game and Fish Department and the Arizona Department of Agriculture for State-listed or sensitive species in your project area.

The Service appreciates your efforts to identify and avoid impacts to listed and sensitive species in your project area. If we may be of further assistance, please feel free to contact Tom Gatz.

Sincerely,

David L. Harlow
Field Supervisor

Enclosure

cc: John Kennedy, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: MOHAVE

08/26/1999

1) LISTED

TOTAL= 15

NAME: **ARIZONA CLIFFROSE** *PURSHIA SUBINTEGRA*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 49 FR 22326 5-29-84

DESCRIPTION: EVERGREEN SHRUB OF THE ROSE FAMILY (ROSEACEAE). BARK PALE SHREDDY. YOUNG TWIGS WITH DENSE HAIRS. LEAVES 1-5 LOBES AND EDGES CURL DOWNWARD (REVOLUTE). FLOWERS: 5 WHITE OR YELLOW PETALS <0.5 INCH LONG.

ELEVATION RANGE: <4000 FT.

COUNTIES: GRAHAM YAVAPAI MARICOPA MOHAVE

HABITAT: CHARACTERISTIC WHITE SOILS OF TERTIARY LIMESTONE LAKEBED DEPOSITS.

WHITE SOILS OF TERITIARY LIMESTONE LAKEBED DEPOSITS CAN BE SEEN FROM A DISTANCE.

NAME: **JONES' CYCLADENIA** *CYCLADENIA HUMILIS VAR JONESII*

STATUS: THREATENED CRITICAL HAB No RECOVERY PLAN: No CFR: 51 FR 16530

DESCRIPTION: A LONG LIVED PERENNIAL HERB IN THE DOGBANE FAMILY (Apocynaceae) WITH PINKISH-ROSE FLOWERS. PLANTS REACH 4-6 INCHES TALL AND HAVE ORBICULAR, WIDE-OVAL OR ELLIPTICAL LEAVES. PLANTS OVER WINTER AS SUBTERRANEAN RHIZOMES (roots).

ELEVATION RANGE: 4390-6000 FT.

COUNTIES: MOHAVE

HABITAT: MIXED DESERT SCRUB, JUNIPER, OR WILD BUCKWHEAT-MORMON TEA

IT IS FOUND ON GYPSIFEROUS, SALINE SOILS OF THE CUTLER, SUMMERVILLE, AND CHINLE FORMATIONS.

NAME: **SILER PINCUSHION CACTUS** *PEDIOCACTUS SILERI*

STATUS: THREATENED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 44 FR 61786, 11-26-1979

DESCRIPTION: SMALL SOLITARY OR CLUSTERED CACTUS GLOBOSE SHAPED ABOUT 5 INCHES TALL AND 3-4 INCHES IIN DIAMETER. FLOWERS: YELLOW WITH MAROON VEINS

ELEVATION RANGE: 2800-5400 FT.

COUNTIES: MOHAVE COCONINO

HABITAT: DESERTSCRUB TRANSITIONAL AREAS OF NAVAJOAN, SAGEBRUSH AND MOHAVE DESERTS

GROWS ON GYPSIFEROUS CLAY AND SANDY SOILS OF MOENKOPI FORMATION.

NAME: **DESERT TORTOISE, MOHAVE POPULATION** *GOPHERUS AGASSIZII [XEROBATES]*

STATUS: THREATENED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 55 FR 12178, 04-02-1990; 59 FR 5820, 2-08-94

DESCRIPTION: LARGE HERBIVOROUS REPTILE HAS DOMED SHELL AND ROUND STUMPY HIND LEGS. MOST ACTIVE DURING THE SPRING WHEN PLANTS ARE MOST ABUNDANT. SOME ACTIVITY IN LATE SUMMER FOLLOWING MONSOONS. REMAINDER OF YEAR SPENT IN BURROWS.

ELEVATION RANGE: 500-5100 FT.

COUNTIES: MOHAVE

HABITAT: MOHAVE DESERTSCRUB NORTH & EAST OF THE COLORADO RIVER

HABITAT RANGES FROM FLATLANDS TO ROCKY SLOPES AND BAJADAS. SPECIES STILL FOUND THROUGHOUT RANGE, BUT POPULATIONS ARE FRAGMENTED AND DECLINING. THE SONORAN DESERT POPULATION IS A CATE WAS CONSIDERED A CATEGORY 2 CANDIDATE BUT CURRENTLY HAS NO STATUS.

NAME: **HUALAPAI MEXICAN VOLE** *MICROTUS MEXICANUS HUALPAIENSIS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 52 FR 36776, 10-01-87

DESCRIPTION: SMALL, CINNAMON-BROWN MOUSE-SIZED WITH SHORT TAIL AND LONG FUR THAT NEARLY COVERS ITS SMALL ROUND EARS.

ELEVATION RANGE: 3500-7000 FT.

COUNTIES: MOHAVE

HABITAT: GRASS/FORB HABITATS IN PONDEROSA PINE, TYPICALLY NEAR WATER. (CONTINUED BELOW)

ALSO FOUND IN PINYON-JUNIPER & PINE-OAK ASSOCIATIONS WITH A VARIETY OF SHRUBS AND GRASSES. SPECIES CONFIRMED ONLY IN THE HUALAPAI MOUNTAIN RANGE AND POSSIBLY IN THE PROSPECT VALLEY AND MUSIC MOUNTAINS. ONGOING RESEARCH SUGGESTS THAT POPULATIONS MAY OCCUR IN THE HUALAPAI NATION, AUBREY CLIFFS, CHINO WASH, SANTA MARIA MOUNTAINS, BRADSHAW MOUNTAINS, ROUND MOUNTAIN, AND SIERRA PRIETA MOUNTAINS. THE TAXON MAY ULTIMATELY BE RENAMED.

NAME: **BONYTAIL CHUB** *GILA ELEGANS*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 45 FR 27710, 04-23-1980; 59 FR 13374, 03-21-1994

DESCRIPTION: LARGE (12-14 UP TO 24 INCHES) MINNOW CHARACTERIZED BY SMALL HEAD LARGE FINS SLIGHTLY HUMPED BACK AND LONG THIN CAUDAL PEDUNCLE.

ELEVATION RANGE: <4000 FT.

COUNTIES: MOHAVE, LA PAZ

HABITAT: WARM SWIFT TURBID MAINSTEM RIVERS OF THE COLORADO RIVER BASIN, RESERVOIRS IN LOWER BASIN

ENDEMIC TO COLORADO RIVER BASIN. RAREST OF COLORADO RIVER FISH. POPULATION AUGMENTATION IS ONGOING IN LAKE MOHAVE AND LAKE HAVASU.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: MOHAVE

08/26/1999

NAME: HUMPBACK CHUB *GILA CYPHA*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-1967;59 FR 13374, 03-21-1994

DESCRIPTION: LARGE (18 INCH) MINNOW FLATTENED HEAD LONG FLESHY SNOUT, LARGE FINS, AND A VERY LARGE HUMP BETWEEN THE HEAD AND THE DORSAL FIN

ELEVATION RANGE: <4000 FT.

COUNTIES: COCONINO, MOHAVE

HABITAT: LARGE WARM TURBID RIVERS ESPECIALLY CANYON AREAS WITH DEEP FAST WATER

CRITICAL HABITAT IN GRAND CANYON

NAME: RAZORBACK SUCKER *XYRAUCHEN TEXANUS*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 55 FR 21154, 05-22-1990; 59 FR 13374, 03-21-1994

DESCRIPTION: LARGE (UP TO 3 FEET AND UP TO 16 POUNDS) LONG, HIGH SHARP-EDGED KEEL-LIKE HUMP BEHIND THE HEAD. HEAD FLATTENED ON TOP. OLIVE-BROWN ABOVE TO YELLOWISH BELOW.

ELEVATION RANGE: <6000 FT.

COUNTIES: GREENLEE, MOHAVE, PINAL, YAVAPAI, YUMA, LA PAZ, MARICOPA (REFUGIA), GILA, COCONINO, GRAHAM

HABITAT: RIVERINE & LACUSTRINE AREAS, GENERALLY NOT IN FAST MOVING WATER AND MAY USE BACKWATERS

SPECIES IS ALSO FOUND IN HORSESHOE RESERVOIR (MARICOPA COUNTY).CRITICAL HABITAT INCLUDES THE 100-YEAR FLOODPLAIN OF THE RIVER THROUGH GRAND CANYON FROM CONFLUENCE WITH PARIA RIVER TO HOOVER DAM; HOOVER DAM TO DAVIS DAM; PARKER DAM TO IMPERIAL DAM. ALSO GILA RIVER FROM AZ/NM BORDER TO COOLIDGE DAM; AND SALT RIVER FROM HWY 60/SR 77 BRIDGE TO ROOSEVELT DAM; VERDE RIVER FROM FS BOUNDARY TO HORSESHOE LAKE.

NAME: VIRGIN RIVER CHUB *GILA SEMINUDA*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 54 FR 35305, 08-24-1989; 60 FR 17296, 04-05-1995

DESCRIPTION: SLENDER, SILVERY MINNOW (8-18 INCHES), WITH SMALL EMBEDDED SCALES GIVING A SMOOTH APPEARANCE TO THE BODY.

ELEVATION RANGE: < 4,500 ft FT.

COUNTIES: MOHAVE (AZ), WASHINGTON (UT), AND CLARK (NV)

HABITAT: DEEP SWIFT WATERS BUT NOT TURBULENT SAND & GRAVEL WITH BOULDERS OR INSTREAM COVER

PROPOSED CRITICAL HABITAT MAIN CHANNEL OF THE VIRGIN RIVER. PRESENTLY FOUND IN THE VIRGIN AND MOAPA RIVERS AND THE MOUTH OF BEAVER DAM WASH.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: MOHAVE

08/26/1999

NAME: WOUNDFIN *PLAGOPTERUS ARGENTISSIMUS*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 35 FR 16047, 10-13-1970; 60 FR 17296, 04-05-1995

DESCRIPTION: SMALL (4 INCHES) SILVER MINNOW WITH FAIRLY LARGE FINS AND A SHARP DORSAL FIN SPINE.

ELEVATION RANGE: <4500 FT.

COUNTIES: MOHAVE (AZ), WASHINGTON (UT), AND CLARK (NV)

HABITAT: RUNS AND QUIET WATERS ADJACENT TO RIFFLES OVER SAND AND GRAVEL SUBSTRATES

EXPERIMENTAL POPULATIONS (50 FR 30193, 07-24-1985) DESIGNATED, BUT NOT YET INTRODUCED IN PORTIONS OF VERDE, GILA, SAN FRANCISCO, AND HASSAYAMPA RIVERS AND TONTO CREEK. PROPOSED CRITICAL HABITAT ON VIRGIN RIVER

NAME: BALD EAGLE *HALIAEETUS LEUCOCEPHALUS*

STATUS: THREATENED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 60 FR 35999, 07-12-95

DESCRIPTION: LARGE, ADULTS HAVE WHITE HEAD AND TAIL. HEIGHT 28 - 38"; WINGSPAN 66 - 96". 1-4 YRS DARK WITH VARYING DEGREES OF MOTTLED BROWN PLUMAGE. FEET BARE OF FEATHERS.

ELEVATION RANGE: VARIES FT.

COUNTIES: YUMA, LA PAZ, MOHAVE, YAVAPAI, MARICOPA, PINAL, COCONINO, NAVAJO, APACHE, SANTA CRUZ, PIMA, GILA, GRAHAM, COCHISE

HABITAT: LARGE TREES OR CLIFFS NEAR WATER (RESERVOIRS, RIVERS AND STREAMS) WITH ABUNDANT PREY

SOME BIRDS ARE NESTING RESIDENTS WHILE A LARGER NUMBER WINTERS ALONG RIVERS AND RESERVOIRS. AN ESTIMATED 200 TO 300 BIRDS WINTER IN ARIZONA. ONCE ENDANGERED (32 FR 4001, 03-11-1967; 43 FR 6233, 02-14-78) BECAUSE OF REPRODUCTIVE FAILURES FROM PESTICIDE POISONING AND LOSS OF HABITAT, THIS SPECIES WAS DOWN LISTED TO THREATENED ON AUGUST 11, 1995. ILLEGAL SHOOTING, DISTURBANCE, LOSS OF HABITAT CONTINUES TO BE A PROBLEM. SPECIES HAS BEEN PROPOSED FOR DELISTING (64 FR 36454) BUT STILL RECEIVES FULL PROTECTION UNDER ESA.

NAME: CALIFORNIA CONDOR *GYMNOPS CALIFORNIANUS*

STATUS: EXPERIMENTAL/NONESSENTIAL CRITICAL HAB No RECOVERY PLAN: Yes CFR: 32 FR 4001; 03-11-67

DESCRIPTION: VERY LARGE VULTURE (47 IN., WINGSPAN TO 9 1/2 FT, WEIGHT TO 22 LBS); ADULT PLUMAGE BLACKISH, IMMATURE MORE BROWNISH; ADULT WING LININGS WHITE, IMMATURE MOTTLED; HEAD & UPPER PARTS OF NECK BARE; YELLOW-ORANGE IN ADULTS, GRAYISH IN IMMATURE.

ELEVATION RANGE: VARIES FT.

COUNTIES: MOHAVE, COCONINO, NAVAJO, APACHE

HABITAT: HIGH DESERT CANYONLANDS AND PLATEAUS

LAST WILD CONDOR REPORTED IN ARIZONA IN 1924. RECOVERY PROGRAM HAS REINTRODUCED CONDORS TO NORTHERN ARIZONA, WITH THE FIRST RELEASE (6 BIRDS) IN DECEMBER 1996. RELEASE SITE LOCATED AT THE VERMILLION CLIFFS (COCONINO CO.), WITH AN EXPERIMENTAL/NONESSENTIAL AREA DESIGNATED FOR MOST OF NORTHERN ARIZONA AND SOUTHERN UTAH.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: MOHAVE

08/26/1999

NAME: **MEXICAN SPOTTED OWL** *STRIX OCCIDENTALIS LUCIDA*

STATUS: THREATENED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 56 FR 14678, 04-11-91

DESCRIPTION: MEDIUM SIZED WITH DARK EYES AND NO EAR TUFTS. BROWNISH AND HEAVILY SPOTTED WITH WHITE OR BEIGE.

ELEVATION RANGE: 4100-9000 FT.

COUNTIES: MOHAVE, COCONINO, NAVAJO, APACHE, YAVAPAI, GRAHAM, GREENLEE, COCHISE, SANTA CRUZ, PIMA, PINAL, GILA, MARICOPA

HABITAT: NESTS IN CANYONS AND DENSE FORESTS WITH MULTI-LAYERED FOLIAGE STRUCTURE

GENERALLY NESTS IN OLDER FORESTS OF MIXED CONIFER OR PONDERSA PINE/GAMBEL OAK TYPE, IN CANYONS, AND USE VARIETY OF HABITATS FOR FORAGING. SITES WITH COOL MICROCLIMATES APPEAR TO BE OF IMPORTANCE OR ARE PREFERED.

NAME: **SOUTHWESTERN WILLOW FLYCATCHER** *EMPIDONAX TRAILLII EXTIMUS*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: No CFR: 60 FR 10694, 02-27-95

DESCRIPTION: SMALL PASSERINE (ABOUT 6") GRAYISH-GREEN BACK AND WINGS, WHITISH THROAT, LIGHT OLIVE-GRAY BREAST AND PALE YELLOWISH BELLY. TWO WINGBARS VISIBLE. EYE-RING FAINT OR ABSENT.

ELEVATION RANGE: <8500 FT.

COUNTIES: YAVAPAI, GILA, MARICOPA, MOHAVE, COCONINO, NAVAJO, APACHE, PINAL, LA PAZ, GREENLEE, GRAHAM, YUMA, PIMA, COCHISE, SANTA CRUZ

HABITAT: COTTONWOOD/WILLOW & TAMARISK VEGETATION COMMUNITIES ALONG RIVERS & STREAMS

MIGRATORY RIPARIAN OBLIGATE SPECIES THAT OCCUPIES BREEDING HABITAT FROM LATE APRIL TO SEPTEMBER. DISTRIBUTION WITHIN ITS RANGE IS RESTRICTED TO RIPARIAN CORRIDORS. DIFFICULT TO DISTINGUISH FROM OTHER MEMBERS OF THE EMPIDONAX COMPLEX BY SIGHT ALONE. TRAINING SEMINAR REQUIRED FOR THOSE CONDUCTING FLYCATCHER SURVEYS. CRITICAL HABITAT ON PORTIONS OF THE 100-YEAR FLOODPLAIN ON SAN PEDRO AND VERDE RIVERS; WET BEAVER AND WEST CLEAR CREEKS, INCLUDING TAVASCI MARSH AND ISTER FLAT; THE COLORADO RIVER, THE LITTLE COLORADO RIVER, AND THE WEST, EAST, AND SOUTH FORKS OF THE LITTLE COLORADO RIVER, REFERENCE 60 CFR:62 FR 39129, 7/22/97.

NAME: **YUMA CLAPPER RAIL** *RALLUS LONGIROSTRIS YUMANENSIS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-67; 48 FR 34182, 07-27-83

DESCRIPTION: WATER BIRD WITH LONG LEGS AND SHORT TAIL. LONG SLENDER DECURVED BILL. MOTTLED BROWN ON GRAY ON ITS RUMP. FLANKS AND UNDERSIDES ARE DARK GRAY WITH NARROW VERTICAL STRIPES PRODUCING A BARRING EFFECT.

ELEVATION RANGE: <4500 FT.

COUNTIES: YUMA, LA PAZ, MARICOPA, PINAL, MOHAVE

HABITAT: FRESH WATER AND BRACKISH MARSHES

SPECIES IS ASSOCIATED WITH DENSE EMERGENT RIPARIAN VEGETATION. REQUIRES WET SUBSTRATE (MUDFLAT, SANDBAR) WITH DENSE HERBACEOUS OR WOODY VEGETATION FOR NESTING AND FORAGING. CHANNELIZATION AND MARSH DEVELOPMENT ARE PRIMARY SOURCES OF HABITAT LOSS.

3) CANDIDATE TOTAL= 2

NAME: FICKEISEN PINCUSHION CACTUS *PEDIOCACTUS PEEBLESIANUS FICKEISENIAE*

STATUS: CANDIDATE CRITICAL HAB No RECOVERY PLAN: No CFR:

DESCRIPTION: VERY SMALL (3 INCHES TALL- 1.5 INCHES DIAMETER) UNBRANCHED CACTUS THAT RETREATS INTO GRAVELY SOILS AFTER FLOWERING AND FRUITING. TUBERCLES FORM A SPIRAL PATTERN AROUND PLANT. CENTRAL SPINE 3/8 INCH LONG FLOWERS CREAM/YELLOW

ELEVATION RANGE: 4000-5000 FT.

COUNTIES: COCONINO, MOHAVE

HABITAT: EXPOSED LAYERS OF KAIBAB LIMESTONE ON CANYON MARGINS OR HILLS OF NAVAJOAN DESERT

NAME: PARADOX MILK-VETCH *ASTRAGALUS HOLMGRENIORUM*

STATUS: CANDIDATE CRITICAL HAB No RECOVERY PLAN: No CFR:

DESCRIPTION: DWARF PERENNIAL HERB. NO STEM LEVES AND FLOWERS: PROSTRATE FROM ROOT. FLOWERS PURPLE, SEEDS: CURVED, ELLIPTIC, AND HAVE BEAK AT THE TIP. LEAVES: BLUE-GREEN BELOW AND YELLOWISH-GREEN ABOVE

ELEVATION RANGE: 2700-2800 FT.

COUNTIES: MOHAVE

HABITAT: JUST UNDER LIMESTONE RIDGES AND ALONG DRAWS IN GRAVELLY CLAY HILLS

TWO KNOWN LOCALITIES CLOSE TO UTAH BORDER

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: MOHAVE

08/26/1999

CONSERVATION AGREEMENT TOTAL= 1

NAME: **VIRGIN SPINEDACE** *LEPIDOMEDA MOLLISPINIS MOLLISPINIS*

STATUS: NONE CRITICAL HAB No RECOVERY PLAN: No CFR:

DESCRIPTION: SMALL FISH, ABOUT 5 INCHES, ROUNDED SNOUT; LARGE TERMINAL MOUTH WITH TWO LARGE SPINES AT FRONT OF DORSAL FIN; COMPRESSED BODY WITH GRAY-BLACK BLOTCHES AND SPECKS

ELEVATION RANGE: <4,500 FEE FT.

COUNTIES: MOHAVE (AZ), WASHINGTON (UT), CLARK (NV)

HABITAT: AQUATIC

CONSERVATION AGREEMENT BETWEEN THE SERVICE, UTAH DIVISION OF WILDLIFE RESOURCES, WASHINGTON COUNTY WATER CONSERVANCY DISTRICT, AND OTHERS FINALIZED IN 1995

SHELDON R. JONES
Director

G. JOHN CARAVETTA
Associate Director

Arizona Department of Agriculture

1688 West Adams, Phoenix, Arizona 85007
(602) 542-4373 FAX (602) 542-0999
PLANT SERVICES DIVISION

December 6, 1999

Kathryn May, AICP
Airport/Environmental Planner
Coffman Associates
11022 N. 28th Drive, Suite 240
Phoenix, AZ 85029

RE: ***Environmental Evaluation for Proposed Improvements to Laughlin/Bullhead International Airport, Bullhead City, Arizona***

Dear Ms. May:

The Arizona Department of Agriculture has reviewed the referenced maps, along with the information provided with your letter dated December 3, 1999.

The Department recommends that, if any protected native plants exist on site, they be avoided or transplanted preferably on site.

If it is not known if protected plants occur on the proposed project site, the Department, upon request, will conduct a survey of the site to determine the type and number of protected plants present. The applicant, however, will be billed for the survey. The Department will also accept survey counts from other competent sources.

We appreciate the opportunity to review the proposed action. If you need additional information, please contact me at 602/542-3292.

Sincerely,

James McGinnis
Chief Enforcement Officer
Native Plants/Antiquities

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Governor Jane Dee Hull Jacqueline E. Schafer, Director

December 22, 1999

HSA99:0030

Ms. Kathryn W. May, AICP
Coffman Associates
11022 North 28th Drive, Suite 240
Phoenix, Arizona 85029

Re: Laughlin/Bullhead International Airport

Dear Ms. May:

The Arizona Department of Environmental Quality, Water Quality Division appreciates the opportunity to provide comments regarding water quality resource concerns which could potentially occur as a result of planned improvement activities to the Laughlin/Bullhead International Airport. This letter which is issued in advance of development of the Environmental Assessment will provide you with recommended pollution prevention actions which should be considered in your planning efforts to protect surface and groundwater resources from potential cumulative pollutant loadings that may occur as a result of implementing the proposed activity in the Bullhead watershed.

While the reach of the Colorado River which flows west of the proposed implementation site is not currently listed on the State's 303d list, significant advanced planning efforts should be undertaken to ensure that neither point or nonpoint source pollutants generated at this site are allowed to either directly or indirectly impact the River. This planning effort should address the following areas.

- Although rainfall is infrequent in the Bullhead area, management of storm water runoff is a principal concern. The flashy nature of the watershed and the intensity of desert storms contributes to an environmental condition whereby sediment and sediment transported pollutants can pose a significant risk to regional surface water resources. Storm water management planning should focus upon both short term and long term management criteria for the facility.

- Water quality monitoring of groundwater in the Bullhead watershed has documented several zones where Nitrogen is a problem. Advanced planning for the Airport expansion should address potentials for discharge of Nitrogen to regional aquifers and specific implementation measures for minimizing those potential discharges.

3033 North Central Avenue, Phoenix, Arizona 85012, (602) 207-2300

- Construction phase activities will result in significant levels of ground disturbance which can greatly increase the potential for off site sediment discharge. Advanced planning efforts for airport expansion should identify the implementable practices that will be utilized by construction contractors to minimize soil loss to reduce potentials for sediment discharge to the adjacent Colorado River.

While not required, the Department is recommending that the Mohave County Airport Authority prepare a water quality management plan for the proposed facility prior to the start of construction activities. The plan would identify specific areas where the facility could pose a risk to regional water quality and a listing of possible management practices that could be used to address those potential risks. In its simplest form a plan would identify:

- Adjacent dry washes and constructed drainage points from which pollutants could be discharged from the proposed airport facility to the Colorado River;
- Identified Best Management Practices that could be implemented to minimize any pollutant discharges that may be associated with the airport facility and could reach the Colorado River by way of the above dry washes and constructed drains; and
- An identification of methods which could be used to evaluate whether the BMPs that will be used to minimize pollutant loadings to the water bodies are effective.

If you will need assistance in developing a water quality management plan for this activity, an ADEQ water quality specialist will be made available to assist you in its preparation. Please contact Troy Day, Manager Hydrologic Assessment Section, at 602-207-4416 if you anticipate a need for assistance.

Sincerely,

Troy Day, Section Manager
Hydrologic Support and Assessment

TGD/dnc

cc: Karen Smith, Director
Water Quality Division

Jack Bale, Exc. Consultant II
Waste Program Division

THE STATE OF ARIZONA

GAME & FISH DEPARTMENT

2221 West Greenway Road, Phoenix, Arizona 85023-4399 (602) 942-3000
www.gf.state.az.us
Kingman Office, 5325 N Stockton Hill Rd, Kingman, AZ 86401-1043

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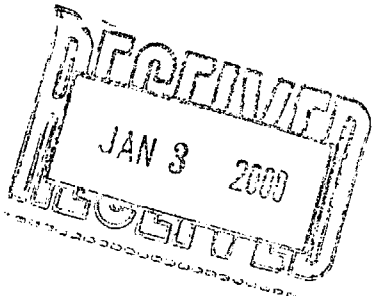
December 29, 1999



Ms. Kathryn W. May
Airport/Environmental Planner
Coffman Associates
11022 No. 28th Drive, Suite 240
Phoenix, Arizona 85029

Re: Environmental Evaluation for Proposed Improvements to the Laughlin/Bullhead Airport

Dear Ms. May:

The Arizona Game and Fish Department (Department) has reviewed Coffman Associates' request for information regarding existing/potential environmental concerns associated with the Laughlin/Bullhead International Airport *Master Plan Update* (Plan). The Plan includes a 1500-foot runway extension, a new 4700-foot parallel runway, and associated airfield/terminal support structures. The proposed airport expansion will occur on an estimated 184 additional acres adjacent to the existing airport. The Department offers the following comments for your consideration regarding wildlife and habitats located near the proposed expansion site.

The Department's Heritage Data Management System has been accessed and current records show that the special status species listed below have been documented as occurring in the project vicinity.

COMMON NAME	SCIENTIFIC NAME	STATUS
Sonoran desert tortoise	*Gopherus agassizii*	WC

STATUS DEFINITIONS

WC - Wildlife of Special Concern in Arizona. Species whose occurrence in Arizona is or may be in jeopardy, or with known or perceived threats or population declines, as described by the Department's listing of **Wildlife of Special Concern in Arizona** (WSCA, in prep.). Species included in WSCA are currently the same as those in **Threatened Native Wildlife in Arizona** (1988).

The Department has developed guidelines to reduce potential impacts on desert tortoises for small scale projects. We have enclosed a copy of these guidelines and recommend their distribution to construction personnel during project implementation.

The airport expansion will occur entirely within Mohave Desert scrub habitat located in the Bullhead City limits. Due to the areas' proximity to urban developments, the habitat is of medium to low value for wildlife species. However, some desert washes cross the proposed expansion site. These washes are often used by wildlife as movement corridors, or feeding and nesting areas. If construction activities affect any of these xeric riparian habitats, the Department recommends using bridge or culvert designs which will not impede or hinder wildlife movements through the desert washes.

The U.S. Army Corps of Engineers, which regulates activities under Section 404 of the Clean Water Act, often considers these desert washes "jurisdictional waters," and any deposition of dredge or fill materials into waters of the United States may require mitigation to compensate for habitat losses. The Department recommends contacting the U.S. Army Corps of Engineers at the following address to obtain a jurisdictional determination:

U.S. Army Corps of Engineers
Regulatory Branch
Marjorie Blaine
3636 North Central Avenue, Suite 760
Phoenix, Arizona 85012-1936
Phone (602) 640-5385

The Department appreciates the opportunity to provide wildlife/habitat information on this airport expansion project. We hope you find the information helpful. If you have any questions regarding these comments, please call me or Tom Fresques at the Department's Kingman Regional Office, (520) 692-7700.

Sincerely,

Duane J. Aubuchon

Duane Aubuchon
Habitat Program Manager

DJA:da

cc: Bob Posey, Field Supervisor, West Sector
Rod Lucas, Region III Supervisor
Marjorie Blaine, U.S. Army Corps of Engineers
AGFD# 12-06-99(06)

Enclosure

GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES ENCOUNTERED ON DEVELOPMENT PROJECTS

Arizona Game and Fish Department
Revised January 17, 1997

The Arizona Game and Fish Department (Department) has developed the following guidelines to reduce potential impacts to desert tortoises, and to promote the continued existence of tortoises throughout the state. These guidelines apply to short-term and/or small-scale projects, depending on the number of affected tortoises and specific type of project.

Desert tortoises of the Sonoran population are those occurring south and east of the Colorado River. Tortoises encountered in the open should be moved out of harm's way to adjacent appropriate habitat. If an occupied burrow is determined to be in jeopardy of destruction, the tortoise should be relocated to the nearest appropriate alternate burrow or other appropriate shelter, as determined by a qualified biologist. Tortoises should be moved less than 48 hours in advance of the habitat disturbance so they do not return to the area in the interim. Tortoises should be moved quickly, kept in an upright position at all times and placed in the shade. Separate disposable gloves should be worn for each tortoise handled to avoid potential transfer of disease between tortoises. Tortoises must not be moved if the ambient air temperature exceeds 105 degrees fahrenheit unless an alternate burrow is available or the tortoise is in imminent danger.

A tortoise may be moved up to two miles, but no further than necessary from its original location. If a release site, or alternate burrow, is unavailable within this distance, and ambient air temperature exceeds 105 degrees fahrenheit, the Department should be contacted to place the tortoise into a Department-regulated desert tortoise adoption program. Tortoises salvaged from projects which result in substantial permanent habitat loss (e.g. housing and highway projects), or those requiring removal during long-term (longer than one week) construction projects, will also be placed in desert tortoise adoption programs. *Managers of projects likely to affect desert tortoises should obtain a scientific collecting permit from the Department to facilitate temporary possession of tortoises.* Likewise, if large numbers of tortoises (>5) are expected to be displaced by a project, the project manager should contact the Department for guidance and/or assistance.

Please keep in mind the following points:

- These guidelines do not apply to the Mohave population of desert tortoises (north and west of the Colorado River). Mohave desert tortoises are specifically protected under the Endangered Species Act, as administered by the U.S. Fish and Wildlife Service.

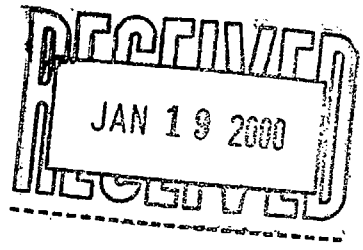
- These guidelines are subject to revision at the discretion of the Department. We recommend that the Department be contacted during the planning stages of any project that may affect desert tortoises.

- Take, possession, or harassment of wild desert tortoises is prohibited by state law. Unless specifically authorized by the Department, or as noted above, project personnel should avoid disturbing any tortoise.

RAC:NLO:rc

Arizona® State Parks

January 13, 2000



Kathryn W. May, AICP
Airport/Environmental Planner
Coffman Associates
11022 N. 28th Drive, Suite 240
Phoenix, AZ

Re: Environmental Evaluation for Proposed Improvements to Lauglin/Bullhead International Airport, Bullhead City, AZ; FAA

Dear Ms. May:

Thank you for consulting with our office regarding the potential effects to historic properties that may result from the proposed improvements to Lauglin/Bullhead International Airport, Bullhead City, AZ.

Our records indicate there was previous consultation between our office and the Federal Aviation Administration (FAA) regarding improvements to the Airport. A data recovery plan and a data recovery report were received here; however, I have been unable to locate the project record (paper or computer). Unfortunately, I cannot provide an informed comment on whether any historic properties are present within the Area of Potential Effect for this project. I suggest you contact David Kessler at the FAA in Los Angeles, who will be able to help you.

We look forward to continuing consultation with the federal agency regarding project effect. If you have any questions, please contact me at (602) 542-7142.

Sincerely yours,

Jo Anne Miller

Jo Anne Miller
Compliance Specialist/Archaeologist
State Historic Preservation Office

cc: David Kessler, FAA, Los Angeles

Arizona State Parks
1300 W. Washington
Phoenix, AZ 85007

Tel & TTY: 602.542.4174
www.pr.state.az.us

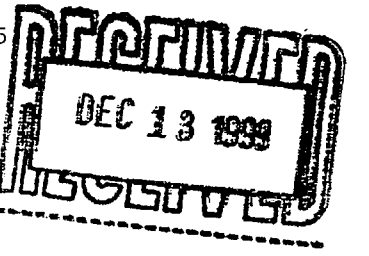
800.285.3703
from (520) area code

General Fax:
602.542.4180

Director's Office Fax:
602.542.4188

North Mohave Valley Corp.

PRESIDENT • FRANK L. LANDON, P.E.
P.O. BOX 22495 •
BULLHEAD CITY, ARIZONA 86439-2495 • (602) 763-5655



December 9, 1999

Coffman Associates
11022 N. 28th Drive, Suite 240
Phoenix, AZ 85029

Attn: Kate May

Re: Environmental Evaluation
Laughlin/Bullhead International Airport
Bullhead City, AZ

Dear Ms. May:

In response to your letter of December 3, 1999 and based upon the information provided on the projected potable water demand at the airport, we will have no problem with providing water for this expansion.

Please call if you have further questions.

Sincerely,

NORTH MOHAVE VALLEY CORP.

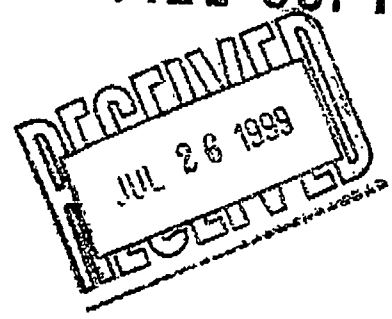
John McCormick

JLM/cm

United States Department of the Interior

NATIONAL PARK SERVICE
LAKE MEAD NATIONAL RECREATION AREA
601 Nevada Highway
BOULDER CITY, NEVADA 89005-2426

FILE COPY



IN REPLY REFER TO:

D18 (LAME-M)

July 22, 1999

Mr. James M. Harris, P.E.
Coffman and Associates
11022 North 28th Drive, Suite 240
Phoenix, Arizona 85029

Dear Mr. Harris:

We have received chapters 1, 2 and 3 of the Airport Master Plan Update of the Laughlin/Bullhead City International Airport. It is our understanding this effort will update the Master Plan completed in 1994 and distributed early in 1995. We appreciate the opportunity to again participate in the planning for future airport use.

In the planning update process, it is important we recognize and honor the prior agreements that led to the original authorization for the construction of the airport. In the 1995 Master Plan there is a discussion included under "Airspace and Traffic Control" that presents the agreement reached between the National Park Service and the Federal Aviation Administration specific to this project. It reads:

> For mitigation on Lake Mead National Recreation Area: Aircraft departures to the north from Runway 16R-34L under visual flight rule (VFR) conditions will climb straight our for 2 nautical miles and then turn to the west and south, exiting the recreation area. Airport departures to the north from Runway 16R-34L under instrument meteorological conditions (IMC) will climb straight out for 2 nautical miles and then turn to the east, exiting the park. Aircraft landing from the north to the south on Runway 16R-34L will approach the airport generally from the east and will turn on to the final straight-in segment at a point ranging from 1 to 2 nautical miles north of Runway 16R-34L. When wind and whether conditions do not require approach and departure procedures north of the airport, a preferential runway use program will provide for departures to the south and arrivals from the south. Notice to airmen will publicize this preferential runway use procedure. Pilots operating VFR over parkland will be advised to fly not less than 2000 feet above the surface, in accordance with the Interagency Agreement between the FAA and the National Park Service and with FAA Advisory Circular 91-36C.

This agreement language represents the fundamental position of the National Park Service relative to airport planning at the Laughlin/Bullhead International Airport. We suggest it be referenced in the Airport History and Airport Authority sections and included as presented above in the chapter on Airspace and Air Traffic Control.

To understand the existing operation of the airport and future operations, it should be clear on the implementation of the conditions outlined in the Federal Aviation Administration/National Park Service agreement. The planning document should illustrate the history of compliance with the agreement and explain what steps will be taken in the future to honor this agreement.

During the 1988 negotiations between the Department of the Interior and the Federal Aviation Administration there were two geographical areas identified where overflights and noise were at issue. These areas are Katherine Landing, located immediately north of the airport on Lake Mohave, and Spirit Mountain, located 12 miles northwest of the airport.

The Spirit Mountain area of the Newberry Mountains is recognized for its cultural and spiritual importance to the Native American community of the southwestern United States. The National Park Service and the Bureau of Land Management with concurrence from the Nevada State Historic Preservation Office has nominated Spirit Mountain, as a Traditional Cultural Property, to the National Register of Historic Places. Because of such significance and its eligibility to the National Register, any direct and indirect impacts to the mountain would have to be addressed through the National Historic Preservation Act, Section 106 process. Impacts would include its close proximity to the airport as well as overflights and noise.

The Newberry Mountains, which include Spirit Mountain, are identified in the park's General Management Plan as being suitable for wilderness designation. The 1995 Master Plan recognized zoning issues and minimum altitude restrictions not only within Lake Mead National Recreation Area but also included the Lake Havasu National Wildlife Refuge. Such a discussion seems appropriate in this planning document as well.

The Katherine Landing development area is one of the most visited areas within Lake Mead NRA and Lake Mead NRA is one of the most visited units of the National Park System with over nine million visitors annually. The Katherine Landing receives 1.4 million annual visitors--the majority seeking water-based outdoor recreation opportunities. We continue to prioritize these areas of concentrated visitor use as noise sensitive areas and seek your assistance in providing noise protection throughout the development of this plan.

These are important elements that frame the setting for the future operation of the Laughlin/Bullhead International Airport. We appreciate the opportunity to review the draft plan as it is developed and should you have questions or require additional information, please contact Park Planner, Jim Holland at (702) 293-8986.

Sincerely,

for Alan O'Neill
Superintendent

cc:
Mr. Norm Hicks
Laughlin/Bullhead International Airport
600 Highway 95
Bullhead City, Arizona 86429